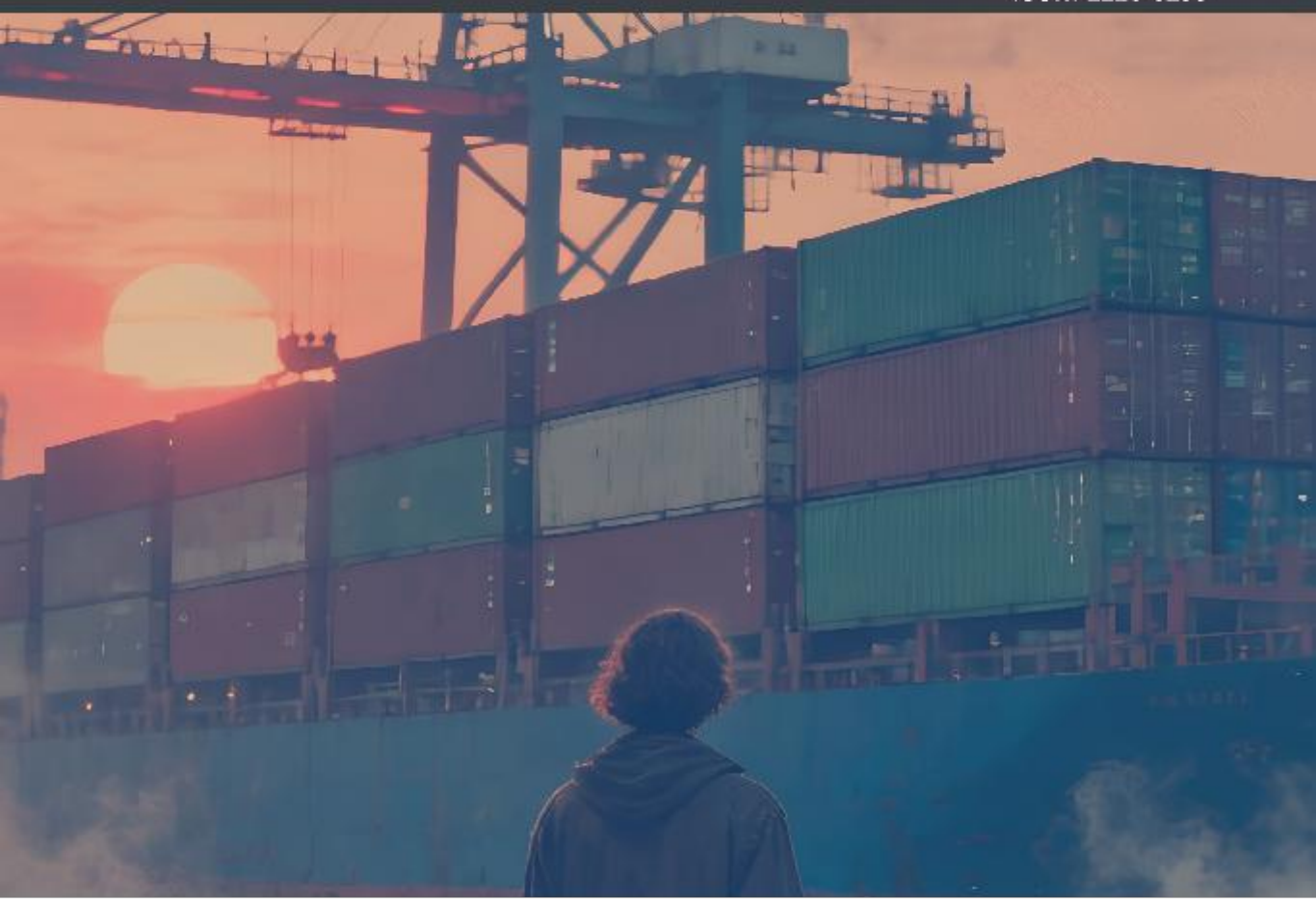
ECONOMICUS 24 ISSUE 2

Editor-in-Chief: Prof. Asoc. Dr. Mateo Spaho / Scientific Journal of the Faculty of Economics, Business and Development / No. 24, issue 2/ 2025

ISSN: 2223-6295



GLOBAL INEQUALITY AND THE INCLUSIVE ECONOMY

Prof. Assoc. Dr. Mateo **SPAHO**/ Dokt. Geralda **MUCEKU**/ Prof. Dr. Hysen **MUCEKU**/ Forcim **KOLA**/ Johana **HAJDINI**/ Dr. Lirola **KERI**/ Assoc. Professor, PhD. Albana **JUPE**/ Dr. Ana **KEKEZI**/ Dr. Agim **NDREGJONI**/ Phd. Cand. Zyber **NESIMI**

UETPRESS

ECONOMICUS No. 24/ issue 2, 2025

SCIENTIFC JOURNAL / FACULTY OF
ECONOMICS, BUSINESS AND DEVELOPMENT

ISSN: 2223-6295

ISSN: 2223-6295
Approved as scientific journal from the Commission of Academic Titles Evaluation at the Ministry of Education and Science no. 153, date 08. 10. 2010
European University of Tirana / Tirana
www.uet.edu.al/economicus@uet.edu.al
www.uet.edu.al/economicus

EUROPEAN UNIVERSITY OF TIRANA / TIRANA
Rr. "Xhanfize Keko", Nd 60, Tirana, Albania / www.uet.edu.al / info@uet.edu.al

UETPRESS

Published under the series “ACADEMIC JOURNALS”.

The journal has been catalogued at the National Library of Albania and the Library of the European University of Tirana, Albania.

(print ISSN: 2223-6295/ online ISSN: 2958-8901)

economicus@uet.edu.al
www.uet.edu.al/economicus

UETPRESS

Published by:
EUROPEAN UNIVERSITY OF TIRANA / ALBANIA

content

EDITORIAL
Global Inequality and the Inclusive Economy *5*
Prof. Assoc. Dr. Mateo SPAHO

Ethics of Using Data in Automated Decision-Making (Comparative Perspectives on Transparency, Fairness, and Institutional Accountability in the Age of AI) *7*
Dokt. Geralda MUCEKU, Prof. Dr. Hysen MUCEKU

Bridging the Digital Divide: Factors Influencing Student Digital Skills in Albanian Higher Education *32*
Forcim KOLA, Johana HAJDINI

The Impact of Accounting Regulations on Small and Medium-Sized Enterprises (SMEs) in Balkan Countries: A Comparative Analysis of Regulatory Frameworks and Business Performance *52*
Dr. Lirola KERI, Assoc. Professor, PhD. Albana JUPE

SMEs as engines of inclusive growth: The Albanian business ecosystem within the Sustainable Development Goals framework *70*
Dr. Ana KEKEZI

Small and Medium Enterprises in the Western Balkans: Development, Challenges, and Prospects *98*
Dr. Agim NDREGJONI

Conventional and Sharia Compliant Index in United Kingdom. Similarities and Differences *112*
Phd. Cand. Zyber NESIMI, Prof. As. Mateo SPAHO

EDITORIAL

Global Inequality and the Inclusive Economy

Prof. Assoc. Dr. Mateo SPAHO

The faculty of Economics, Business and Management is pleased to invite submissions for our upcoming journal issue focused on "Global Inequality and the Inclusive Economy".

Global inequality remains one of the most pressing challenges of the 21st century, manifesting in uneven access to wealth, opportunities, and resources across nations and within societies. While globalization and technological advancement have stimulated economic growth, they have also deepened disparities in income, education, health, and access to markets. The concept of an inclusive economy has therefore emerged as a critical framework for promoting equitable development.

Inequality operates both across and within nations. High-income countries maintain disproportionate access to capital, technology, and global markets, while many low-income countries remain trapped in cycles of debt and underdevelopment. Within societies, divides in income, wealth, and employment opportunities are reinforced by structural barriers such as gender discrimination, unequal education, and weak labor protections.

An inclusive economy emphasizes fairness, accessibility, and sustainability. It prioritizes not only efficiency but also equity and environmental responsibility. At its core is the belief that all individuals should be able to participate in, and benefit from, economic activity. This involves reducing barriers to employment, expanding education and healthcare, and designing financial systems that address the needs of vulnerable groups. Inclusion is both a moral imperative and an economic necessity, since broad participation strengthens productivity and resilience.

Several strategies support inclusive economic systems. Inclusive finance enables access to credit, savings, and insurance for marginalized communities. Investments in education and vocational training reduce skill gaps and expand

labor opportunities. Social protection programs, such as universal healthcare or cash transfers, mitigate vulnerabilities and reduce poverty. Finally, sustainable business practices that integrate social and environmental concerns help deliver more equitable outcomes.Technological change can either exacerbate or reduce inequality. Yet digital innovations also expand access to mobile banking, online education, and telemedicine, particularly in underserved areas. Realizing the inclusive potential of technology requires policies that bridge digital divides, ensure affordable connectivity, and foster digital literacy.

The Sustainable Development Goals (SDGs) provide a global framework for reducing inequality and building inclusive economies. SDG 1 (No Poverty), SDG 5 (Gender Equality), SDG 8 (Decent Work and Economic Growth), and SDG 10 (Reduced Inequalities) directly address disparities. Meanwhile, SDG 4 (Quality Education) and SDG 9 (Industry, Innovation, and Infrastructure) strengthen the enabling conditions for inclusive participation. By embedding inclusivity across all 17 goals, the SDGs recognize that reducing inequality is inseparable from achieving sustainability, resilience, and global justice.

Progress depends heavily on policy choices and international cooperation. Governments must promote fair taxation, regulate labor markets, and invest in infrastructure and healthcare. Globally, stronger governance of trade, migration, and climate change ensures that globalization delivers shared benefits. The SDGs serve as a unifying agenda, aligning national strategies with international commitments.

Global inequality threatens economic stability and social cohesion. The inclusive economy offers a path forward by aligning growth with equity, sustainability, and human dignity. Guided by the SDGs, achieving inclusivity requires coordinated action across finance, technology, education, and governance. While challenges remain, an inclusive economy represents not only an aspiration but a practical roadmap for a more just and resilient global order.

Ethics of Using Data in Automated Decision-Making

(Comparative Perspectives on Transparency, Fairness, and Institutional Accountability in the Age of AI)

Dokt. Geralda MUCEKU
European University of Tirana,
Email:geralda.muceku@uet.edu.al

Prof. Dr. Hysen MUCEKU
European University of Tirana,
Email: hysen.muceku@uet.edu.al

Abstract

This paper examines the ethical dimensions of data use in automated decision-making (ADM) systems and their implications for transparency, fairness, privacy, and accountability. As artificial intelligence (AI) and machine-learning technologies become increasingly integrated into governance and organizational decision processes, the boundaries between human and algorithmic agency are being redefined. The study seeks to analyze how ethical principles can be operationalized to ensure that data-driven automation supports, rather than undermines, human-centered governance.

Employing a qualitative, comparative, and interpretive methodology, the research synthesizes theoretical insights from authors such as Floridi (2021), Nissenbaum (2020), Vallor (2022), Eubanks (2018), and Crawford (2021) with institutional frameworks including the OECD Principles on AI (2025), UNESCO Recommendation

on AI Ethics (2023), and the European Commission's AI Act (2025). Empirical and policy analysis demonstrates that while global ethical standards converge around transparency, fairness, and accountability, their implementation remains uneven—particularly in transitional economies such as those of the Western Balkans.

The findings reveal that the ethical sustainability of ADM depends not only on legal and technical safeguards but also on institutional culture, moral responsibility, and cross-sectoral collaboration. Embedding ethics in automated decision systems enhances public trust, regulatory compliance, and long-term economic stability. The paper concludes that ethical governance should be treated as a structural component of digital transformation, ensuring that innovation and responsibility evolve in tandem.

Keywords: *ethics, artificial intelligence, data governance, automated decision-making, transparency, fairness, accountability, privacy, governance.*

Introduction

Context and Problem Statement

The last decade has witnessed an unprecedented diffusion of artificial intelligence (AI) and data-driven technologies into virtually all domains of human and institutional activity. Automated decision-making (ADM) systems - powered by big data analytics, machine learning, and algorithmic modeling - are increasingly determining access to credit, employment, healthcare, and public services. According to OECD (2025), more than 70 percent of strategic decisions in the public and private sectors are now either partially or fully automated. This rapid technological shift has transformed not only the efficiency and precision of decisions but also the ethical foundations of governance.

What distinguishes ADM from previous technological innovations is its ability to *replace* rather than merely *support* human judgment. The transfer of decision-making authority from humans to algorithms has raised profound ethical questions concerning fairness, transparency, discrimination, and accountability. As Eubanks (2018) argues, algorithms often reproduce and amplify existing social inequalities; as Nissenbaum (2020) warns, they risk violating contextual integrity and privacy; and as Floridi (2021) emphasizes, they redefine the ontological boundaries between human agency and informational systems. These dilemmas are not abstract philosophical puzzles but pressing institutional and socio-economic challenges.

Rationale and Research Gap

Despite the proliferation of international ethical frameworks - including the OECD (2025) *Principles on AI*, the UNESCO (2024) *Recommendation on AI Ethics*, and the European Commission's *AI Act* (2025) - a critical gap remains between the normative articulation of ethics and its practical enforcement. Many institutions lack the capacity, expertise, or political will to translate ethical principles into operational standards. In transitional economies, such as Albania and its Western Balkan peers, the challenge is particularly acute: governments are adopting EU-aligned frameworks but often without the institutional infrastructure necessary to monitor algorithmic governance (RCC, 2024; MII, 2024).

This gap has significant implications for both governance and economic policy. In the absence of ethical safeguards, automated systems can undermine trust in public institutions, distort market outcomes, and erode citizens' rights. Conversely, the institutionalization of ethical principles - transparency, fairness, and accountability - can generate competitive advantages by enhancing legitimacy and compliance with global governance standards (World Economic Forum, 2024; World Bank, 2024). The present study therefore situates the ethics of ADM within a dual framework: as a question of *moral philosophy* and as a *determinant of economic and institutional performance.*

Purpose, Objectives, and Scope

The overarching purpose of this study is to investigate how ethical principles are conceptualized, operationalized, and governed in the context of automated decision-making. The research aims to bridge the gap between theory and practice through a comparative analysis of global, European, and regional frameworks. Specifically, it seeks to:

1. Critically analyze theoretical perspectives on data ethics and AI governance, drawing from contemporary philosophy and social science;
2. Identify ethical risks and dilemmas in the use of data for automated decisions, focusing on bias, opacity, and accountability gaps;
3. Examine institutional and legal approaches at global (OECD, UNESCO, WEF), regional (EU), and national (Albania, Western Balkans) levels;
4. Propose governance-oriented recommendations for embedding ethical safeguards within organizational decision-making processes.

Research Questions and Hypotheses

This investigation is guided by three primary research questions:

- What are the principal ethical challenges associated with the use of data in ADM systems?
- How do international and regional frameworks operationalize ethical principles in AI governance?
- What governance mechanisms are necessary to ensure transparency, fairness, and accountability in transitional economies?

Based on these questions, the study advances the following hypotheses:

1. The absence of institutionalized ethical mechanisms in ADM reproduces existing biases and undermines public trust.
2. Legal frameworks such as the EU *AI Act* (2025) and OECD (2025) *AI Principles* improve governance outcomes when coupled with accountability structures and capacity building.
3. The harmonization of ethical standards between global and regional frameworks enhances both technological adoption and socio-economic resilience.

Significance and Contribution

The contribution of this study is twofold. First, it develops a theoretical synthesis that connects information ethics, data governance, and institutional accountability. Second, it applies this framework empirically to assess how ethical standards are implemented across global and regional contexts, particularly in the Western Balkans. For *Economicus Journal* readers - scholars and policymakers in economics and governance - the paper provides both analytical insights and practical recommendations for aligning technological innovation with responsible governance.

By treating ethics not as a constraint but as a *structural component* of institutional performance, the study positions ethical AI governance as a catalyst for sustainable development, market integrity, and democratic legitimacy.

Literature Review

Conceptual Background

The increasing reliance on data-driven technologies and automated decision-making (ADM) systems has fundamentally altered the relationship between ethics, governance, and technology. As artificial intelligence (AI) becomes embedded in decision processes that once relied solely on human judgment, new questions emerge about responsibility, transparency, and moral agency. Scholars and policymakers increasingly recognize that these technologies are not value-neutral tools but social systems shaped by political, economic, and moral assumptions (Floridi, 2021; Eubanks, 2018; Crawford, 2021).

In this context, the ethics of data use in ADM has evolved as an interdisciplinary field encompassing philosophical inquiry, information ethics, and institutional governance. The central tension lies in reconciling the pursuit of efficiency and predictive accuracy with the preservation of fairness, accountability, and human dignity. While the technical community has made progress in designing algorithms for explainability and bias detection, philosophers and ethicists emphasize that the moral implications of automated systems cannot be solved through code alone (Vallor, 2022; Coeckelbergh, 2023). The following sections examine the main theoretical and institutional contributions that define the contemporary debate.

Philosophical Approaches to Data Ethics

The philosophical foundations of data ethics have been profoundly influenced by Luciano Floridi's (2021) theory of *information ethics*, which situates moral responsibility within the broader "infosphere." According to Floridi, digital environments create a new form of social ontology in which every entity - human, machine, or dataset - participates as an informational agent. Ethical decision-making, therefore, must extend beyond individual human action to include the relational and systemic effects of information processes. Floridi's framework establishes that data are not inert representations but active participants in moral networks; they can promote or harm well-being depending on how they are collected, processed, and used.

Helen Nissenbaum (2020) complements this perspective through her concept of *contextual integrity*, which redefines privacy as the maintenance of appropriate information flows within specific social contexts. In the age of ADM, this principle becomes crucial: algorithms often aggregate data from multiple domains - social media, financial records, medical histories - violating contextual norms of consent

and purpose. Nissenbaum argues that ethical governance requires respecting the social meaning of data rather than relying solely on procedural compliance with privacy laws.

Shannon Vallor (2022) extends the discussion by introducing the idea of *technomoral virtues*. Her virtue-ethical approach calls for the cultivation of moral character among developers, policymakers, and institutions responsible for AI systems. Ethical governance, in this view, depends not only on formal rules but on moral dispositions such as honesty, humility, and justice. Similarly, Mark Coeckelbergh (2023) argues that ethics in AI must be understood relationally: rather than asking what algorithms should do, we must ask how they reshape the moral relationships between humans and machines. Together, these authors shift the ethical debate from the micro level of individual behavior to the macro level of socio-technical systems.

Collectively, these philosophical frameworks form the normative foundation for evaluating ADM. They converge on three key principles: (1) ethics must extend beyond human actors to include digital and institutional agents; (2) privacy and fairness are context-dependent rather than universal absolutes; and (3) moral education and relational accountability are essential for sustainable governance of data technologies.

Algorithmic Bias, Discrimination, and Inequality

A major strand in contemporary literature focuses on the ethical risks inherent in algorithmic systems - particularly bias, discrimination, and the reproduction of inequality. Virginia Eubanks (2018), in *Automating Inequality*, demonstrates that the use of data in welfare, healthcare, and public administration often exacerbates existing social divisions. She shows that automated eligibility systems tend to penalize low-income citizens and minorities by codifying historical prejudices into algorithms. The ethical problem, Eubanks argues, is not the presence of technology itself but the uncritical trust placed in data-driven processes that reflect structural injustice.

Kate Crawford (2021), in *Atlas of AI*, extends this critique by portraying AI as an extractive infrastructure built upon human labor, environmental exploitation, and political asymmetry. Her work reveals how algorithmic systems, while marketed as objective, are entangled in global networks of power and inequality. Crawford introduces the concept of *data colonialism*, warning that the uncontrolled extraction of personal and behavioral data from individuals and communities mirrors historical forms of resource exploitation.

These critical analyses converge on an important insight: algorithmic governance, when left unchecked, risks transforming citizens into data subjects without agency. As Mittelstadt, Russell, and Wachter (2023) emphasize, bias is

not a technical anomaly but an inherent feature of systems trained on historically skewed datasets. The ethical response, therefore, must include both technical interventions (e.g., bias detection, data diversification) and institutional reforms (e.g., oversight boards, transparency mandates).

This literature collectively challenges the technocratic assumption that efficiency is morally neutral. Instead, it reframes ADM as a social practice that can either reinforce or dismantle systemic inequality depending on its ethical design and governance context.

Institutionalization of Ethical AI: Global Frameworks

OECD Principles on AI

The OECD Principles on Artificial Intelligence (2025) constitute one of the earliest and most influential institutional efforts to formalize ethical standards for AI governance. The framework outlines five foundational values: (1) inclusive growth and well-being; (2) human-centered values and fairness; (3) transparency and explainability; (4) robustness, security, and safety; and (5) accountability. These principles, endorsed by over forty countries, have become the normative baseline for subsequent frameworks such as those of UNESCO (2023) and the European Commission (2025).

The OECD (2025) also underscores the economic dimension of ethics, arguing that trust in AI is a prerequisite for sustainable innovation. From a governance standpoint, it promotes "responsible stewardship" of trustworthy AI - an idea that aligns closely with Floridi's (2021) conception of informational responsibility. However, empirical findings from the OECD AI Policy Observatory suggest a gap between normative commitment and practical implementation: many member states endorse the principles rhetorically but lack enforcement mechanisms such as independent auditing or ethical certification processes.

UNESCO Recommendation on the Ethics of Artificial Intelligence

The UNESCO Recommendation on the Ethics of Artificial Intelligence (2023) expands the OECD's normative framework by integrating human rights, cultural diversity, and environmental sustainability into the ethical governance of AI. It calls for AI systems that promote peace, justice, and equity, recognizing that ethical failures in technology often reflect deeper social inequities. The Recommendation introduces practical tools such as *Ethical Impact Assessments* and national AI observatories to monitor compliance.

UNESCO's approach reflects Nissenbaum's (2020) insight that ethics must be contextual: ethical governance cannot rely on universal codes detached from local cultural and institutional realities. The organization also stresses the inclusion of developing economies in global AI policy dialogues, arguing that ethical

governance must be equitable across nations and not merely within technologically advanced regions.

The European Union's AI Act

The European Commission's AI Act (2025) represents the most ambitious attempt to translate ethical principles into binding legislation. It introduces a risk-based classification of AI systems and imposes strict requirements for transparency, documentation, and human oversight in high-risk applications. The Act operationalizes several philosophical principles from Floridi (2021) and Vallor (2022), particularly the emphasis on accountability and human-centered design.

By enforcing the *human-in-the-loop* requirement, the AI Act institutionalizes what Vallor calls *technomoral responsibility*: ensuring that human values remain integral to automated processes. However, scholars have noted the challenges of implementation, particularly in balancing innovation with compliance burdens. The EU's regulatory approach contrasts with the more flexible frameworks of other regions but sets an important precedent for integrating ethics into law.

Complementary Frameworks: NIST and WEF

The NIST AI Risk Management Framework (2024) provides a technical complement to ethical regulation, offering standardized tools for identifying, measuring, and mitigating AI risks. While primarily focused on risk management, it implicitly embeds ethical values such as accountability and transparency within its procedures. Similarly, the World Economic Forum (2023) emphasizes the corporate governance dimension of AI ethics, advocating for the creation of AI ethics boards and algorithmic impact assessments in both public and private organizations.

Together, these frameworks mark a shift from theoretical ethics toward *institutional ethics*: the embedding of moral principles within organizational structures, regulations, and technical standards.

Thematic Synthesis of Ethical Principles

Across both philosophical and institutional literature, four recurring ethical principles emerge: transparency, fairness, privacy, and accountability. These values form the moral and governance pillars of ethical ADM.

- Transparency involves both algorithmic explainability and institutional openness. As Floridi (2021) and Mittelstadt et al. (2023) argue, transparency is necessary to ensure public trust and legal accountability. The European AI Act (2025) operationalizes this through documentation requirements and the right to an explanation.

- Fairness concerns equitable treatment and the avoidance of discrimination. Eubanks (2018) and Crawford (2021) demonstrate that fairness cannot be achieved without addressing structural inequalities in data collection and processing.
- Privacy is rooted in Nissenbaum's (2020) contextual integrity and remains a cornerstone of ethical data governance. The GDPR, referenced throughout the institutional literature, operationalizes privacy by enforcing consent and limiting data use to specific contexts.
- Accountability requires assigning clear moral and legal responsibility. Floridi (2021) conceptualizes accountability as distributed moral agency, while the OECD (2025) and WEF (2023) translate it into governance mechanisms such as ethics boards and AI impact assessments.

These principles are deeply interdependent: transparency enables accountability, fairness requires privacy protections, and all are sustained by institutional trust. Their successful implementation depends on integrating ethical design, regulatory oversight, and human-centered governance.

Convergence and Remaining Gaps

A critical synthesis of the literature reveals a growing convergence between philosophical and institutional approaches. Floridi's information ethics provides the conceptual foundation for OECD's and EU's policy frameworks, while Nissenbaum's contextual privacy model is reflected in UNESCO's global recommendations. Vallor's virtue ethics resonates with the human-centric focus of the EU AI Act and OECD principles, demonstrating that theory and policy are beginning to align. However, three persistent gaps remain:

1. Implementation Gap: Institutional frameworks articulate ethical principles but often lack enforcement capacity and measurable indicators (OECD, 2025; WEF, 2023).
2. Interpretive Gap: Ethical terms such as "fairness" and "accountability" are interpreted differently across cultural and regulatory contexts, complicating harmonization (UNESCO, 2023).
3. Operational Gap: Most organizations lack technical and human resources to implement ethical governance at scale, particularly in emerging economies.

These gaps underscore the need for interdisciplinary collaboration and continuous ethical evaluation throughout the lifecycle of AI systems. They also justify the comparative methodological approach of this study, which integrates philosophical reflection with institutional and policy analysis.

Literature Review Summary

The reviewed literature collectively demonstrates that the ethics of data use in automated decision-making (ADM) occupies a critical intersection between philosophical reasoning, institutional governance, and socio-economic accountability. It reveals a gradual intellectual evolution from abstract moral philosophy to applied frameworks of regulation and policy. Philosophical works such as those of Floridi (2021), Nissenbaum (2020), Vallor (2022), and Coeckelbergh (2023) provide the normative and epistemological foundations for understanding how information, privacy, and human agency acquire moral meaning in data-driven environments. In contrast, social critiques by Eubanks (2018) and Crawford (2021) illuminate the ways in which data infrastructures and algorithmic systems reproduce systemic inequality and asymmetries of power, thus framing ethical governance as an instrument of social justice.

Institutional frameworks - including those of the OECD (2025), the European Commission (2025), UNESCO (2023), and the World Economic Forum (2023) - translate these normative ideals into operational standards through the codification of principles such as transparency, fairness, and accountability. Collectively, these documents represent a global movement toward the institutionalization of ethical AI. However, as noted by the OECD and UNESCO, this institutionalization remains uneven, with implementation gaps persisting across regions and sectors. Even within highly regulated environments such as the European Union, enforcement mechanisms are often fragmented, and ethical compliance depends heavily on institutional capacity and political commitment.

A key insight emerging from this synthesis is the interdependence of philosophical and institutional approaches. The theoretical frameworks of Floridi, Nissenbaum, Vallor, and Coeckelbergh do not exist in isolation - they inform and are reflected in global governance initiatives. For example, Floridi's concept of *distributed moral responsibility* underpins the OECD's emphasis on organizational accountability; Nissenbaum's *contextual integrity* directly resonates with GDPR and UNESCO's human-rights-centered approach; and Vallor's *technomoral virtues* find practical expression in the EU's human-centric AI model and "human-in-the-loop" design. This dynamic interplay between theory and policy underscores the multidimensional nature of ethical AI governance: it is at once philosophical, institutional, and procedural.

Nevertheless, the literature exposes three unresolved tensions. First, an **implementation tension**, where ethical guidelines exist but lack enforceability or measurable impact. Second, an **interpretive tension**, as key terms such as "fairness," "autonomy," and "accountability" remain fluid across cultural and legal contexts, leading to inconsistent applications. Third, a **structural tension**,

as global ethical frameworks are often designed from a Western epistemological standpoint, leaving questions about their adaptability in developing or transitional economies. The persistence of these tensions confirms that ethics in ADM cannot be universalized mechanically; it must be continually interpreted within specific institutional, cultural, and socio-economic contexts.

In this light, the literature establishes that ethical AI is not simply a moral adjunct to technology but an integral component of governance and economic development. Trust in automated systems directly influences institutional legitimacy, regulatory stability, and public confidence - key variables in sustainable digital economies. By linking ethics to accountability, transparency, and performance, scholars and organizations converge on the view that the ethical design of ADM systems is a prerequisite for inclusive and resilient governance.

The reviewed sources therefore provide a dual foundation for the present study:

1. **Theoretically**, they articulate a moral architecture for evaluating automated systems, grounded in principles of dignity, justice, and human oversight.
2. **Empirically and institutionally**, they offer frameworks for translating these principles into practice through legislation, governance structures, and corporate responsibility mechanisms.

This synthesis positions the ethics of data use not as a peripheral academic concern but as a strategic policy domain that intersects with economic regulation, digital innovation, and institutional reform. It also underscores the need for continuous interdisciplinary dialogue between philosophers, technologists, and policymakers to ensure that AI development remains aligned with societal values and democratic principles.

In conclusion, the literature review lays a conceptual bridge to the next sections of this study - *Analysis and Interpretation of Results* and *Research Methodology* - which seek to operationalize these ethical principles within concrete institutional contexts. By critically examining how the theoretical and normative insights of leading scholars are manifested - or neglected - in global and regional governance frameworks, the subsequent analysis aims to demonstrate that ethical governance of ADM is not only desirable but indispensable for the legitimacy and sustainability of modern decision-making system.

Analysis and interpretation of results

Overview of Analytical Focus

The ethical governance of data-driven automation has become one of the defining issues in contemporary socio-economic policy. Automated decision-making (ADM) systems - now pervasive across finance, telecommunications, public administration, and justice - raise questions not only about efficiency and performance but also about fairness, transparency, and institutional accountability. Building upon the literature reviewed and recent institutional reports, this analysis interprets how global and regional frameworks are addressing these ethical tensions and how they manifest in practical governance contexts. The discussion integrates conceptual findings from authors such as Floridi (2021), Nissenbaum (2020), and Eubanks (2018) with comparative evidence from the OECD (2025), the European Commission (2025), UNESCO (2024), and emerging Western Balkan initiatives (UET Policy Paper 2024).

The Expanding Role of Data in Decision-Making

Over the last decade, data have evolved from a resource for analytical insight into the *substrate* of decision architecture. In sectors such as banking, credit risk modeling increasingly relies on algorithmic scoring that integrates behavioral and social-media data (Brookings Institution, 2023). In telecommunications, customer segmentation and tariff optimization are largely determined by adaptive machine-learning models. These transformations illustrate what Floridi (2021) describes as the "infosphere" - a socio-technical ecosystem in which informational entities (data, models, and individuals) interact continuously.

Empirical sources indicate that 70 – 80 percent of strategic corporate decisions in OECD countries are now either partially or fully automated (OECD, 2025). Yet, the belief that data analytics produces neutral or objective outcomes is increasingly contested. As Eubanks (2018) notes, algorithmic systems often reflect the social biases embedded in their training datasets. The *illusion of neutrality* creates a moral hazard: institutions outsource ethical judgment to algorithms without fully understanding their limitations.

Comparative evidence shows differentiated approaches. The European Union enforces precautionary regulation through the AI Act (2025), requiring risk classification and human oversight, while the United States privileges innovation and voluntary compliance (NIST, 2024). Emerging economies, including several Western Balkan states, remain in a formative phase, often adopting EU guidelines

without equivalent enforcement capacity (Regional Cooperation Council [RCC], 2024). The asymmetry of ethical governance across jurisdictions reveals the uneven diffusion of moral responsibility in data-driven economies.

Transparency, Explainability, and Accountability

Transparency is consistently identified as both a normative value and a technical challenge. Mittelstadt et al. (2023) frame algorithmic opacity as a "crisis of explainability" arising from the complexity of machine-learning architectures and the proprietary protection of algorithms. In policy terms, opacity undermines democratic oversight: citizens and regulators cannot contest decisions they cannot understand.

The European AI Act institutionalizes transparency through documentation and audit obligations for "high-risk" systems. Complementary instruments - such as the OECD AI Policy Observatory (2025) and the UNESCO Recommendation on AI Ethics (2024) - extend the principle globally by requiring algorithmic impact assessments and disclosure of data provenance. Nonetheless, implementation remains inconsistent.

Empirical studies (Brookings Institution, 2023) show that algorithmic opacity has led to discriminatory credit denials and biased recruitment outcomes. The Amazon case (2019) remains emblematic: an AI-based recruitment tool was abandoned after it reproduced gender bias against female applicants. Similar issues have been reported in Albania's nascent digital-governance initiatives, where automated eligibility filters in social-service platforms lacked public documentation (UET Policy Paper, 2024).

The persistence of opaque ADM reflects a structural governance deficit. Accountability becomes diffused among developers, data suppliers, and institutional users. Floridi's (2021) concept of *distributed moral responsibility* underscores this fragmentation: when agency is dispersed across human and non-human actors, identifying culpability becomes morally and legally ambiguous.

Privacy and the Ethics of Data Stewardship

Privacy constitutes the ethical linchpin of data governance. Nissenbaum's (2020) theory of *contextual integrity* posits that ethical privacy is maintained only when information flows conform to contextual norms of appropriateness. ADM systems frequently violate this integrity by repurposing data beyond their initial consent framework.

The UNESCO (2024) global assessment found that 58 percent of surveyed institutions lacked formal data-retention or deletion protocols, and only 36 percent conducted regular privacy-impact assessments. Even within the EU, enforcement

of GDPR principles remains uneven - particularly in small and medium-sized enterprises and public agencies.

From a normative perspective, privacy breaches erode not only individual rights but the moral *dignity of informational identity* (Floridi, 2021). When individuals are reduced to data vectors in predictive models, their autonomy becomes instrumentalized. In the Western Balkan context, weak data-protection authorities further exacerbate vulnerability: national AI strategies (e.g., Albania 2023 Draft Strategy on AI) reference ethical principles but lack independent oversight bodies to enforce them. Thus, privacy protection remains largely declarative rather than operational.

Fairness, Impartiality, and Social Justice in Algorithms

Fairness remains the most debated ethical criterion in AI governance. Floridi (2021) and Coeckelbergh (2023) distinguish between *procedural fairness* (equal treatment in process) and *substantive fairness* (equitable outcomes). Empirical research indicates that algorithms trained on unbalanced data amplify socio-economic disparities, particularly in credit, employment, and judicial decisions (Brookings Institution, 2023).

Mittelstadt et al. (2023) propose a multidimensional evaluation - distributive, procedural, and corrective fairness - emphasizing that ethical fairness cannot be reduced to mathematical parity. The *human-in-the-loop* principle, promoted by the Stanford HAI (2024) and OECD (2025), addresses this gap by ensuring human oversight in critical decision points. However, most institutions implement human review only post-decision, thus limiting its corrective potential.

Regional evidence corroborates these findings. In pilot AI projects within Albanian financial institutions, bias-testing protocols are seldom applied, and model-validation documentation is minimal (Bank of Albania Research Unit, 2024). These deficiencies suggest that fairness remains aspirational in contexts where regulatory literacy and technical capacity are limited.

Ethically, fairness must be understood not merely as a computational adjustment but as a social commitment. As Eubanks (2018) notes, algorithms mirror structural inequality; therefore, achieving fairness requires structural reform in data governance - diversifying datasets, embedding ethical review boards, and adopting participatory design that includes affected communities.

Institutional and Economic Accountability

Accountability extends beyond transparency to encompass institutional liability and governance design. The OECD (2025) identifies the creation of AI Ethics Boards and Algorithmic Impact Assessments (AIAs) as primary mechanisms for

accountability. Yet, the effectiveness of these tools depends on institutional will and resource allocation.

The World Economic Forum (2024) observes that fewer than one-third of large corporations publicly report on AI ethics performance. Even fewer link these metrics to executive accountability or corporate governance structures. This phenomenon of "ethics washing" (Crawford, 2021) reflects a symbolic compliance with ethical norms for reputational benefit rather than substantive behavioral change.

Public-sector accountability exhibits similar shortcomings. In several EU member states and associated economies, algorithmic tools for tax risk assessment and social-benefit eligibility operate without clearly designated human supervisors. Floridi's (2021) notion of *distributed agency* aptly captures this vacuum of responsibility: while decisions have collective origins, victims experience their consequences individually.

For countries such as Albania, where digital transformation is accelerating under EU alignment processes, the challenge is twofold - adopting international norms while building domestic enforcement mechanisms. The National Strategy for Artificial Intelligence (2023–2030) emphasizes transparency and fairness yet lacks measurable accountability indicators (Ministry of Infrastructure and Innovation [MII], 2024). Integrating OECD and EU accountability standards into local governance would thus be a decisive step toward credible ethical implementation.

Cross-Sectoral and Comparative Insights

Synthesizing data across sectors reveals consistent ethical asymmetries:

Sector	Key Ethical Issue	Observed Outcome	Illustrative Source
Finance	Bias in credit scoring	Exclusion of vulnerable groups	Brookings Institution (2023)
Employment	Algorithmic discrimination	Gender bias in hiring	Amazon Case (2019)
Health	Diagnostic misclassification	Unclear accountability	UNESCO (2024)
Public Services	Data reuse without consent	Privacy breaches	OECD (2025)
Telecommunications	Behavioral profiling	Limited explainability	UET Policy Paper (2024)

This comparative mapping underscores that ethical vulnerabilities are systemic rather than sector-specific. They stem from a shared dependence on opaque data ecosystems and insufficient ethical governance capacity.

Economic implications are equally salient: trust deficits in ADM can generate measurable financial costs through litigation, regulatory penalties, and reputational damage. Conversely, transparent and accountable AI systems correlate with higher consumer confidence and sustainable digital-market growth (World Bank Digital

Economy Report, 2024). Thus, ethical governance is not a moral luxury but an economic imperative.

Interpretation of Results and Emerging Global Trends

Across analytical dimensions, one central finding emerges: the ethical sustainability of ADM depends less on the existence of rules than on their *institutional operationalization*. A global normative convergence is evident - OECD (2025), UNESCO (2024), and the EU AI Act (2025) articulate near-identical principles of transparency, fairness, accountability, and human oversight. However, practical implementation remains fragmented due to disparities in enforcement culture, technical expertise, and political will.

Three intertwined trends define the current trajectory:

1. **Ethical Institutionalization and Governance Integration**
   Ethics is increasingly institutionalized through dedicated governance bodies, audit tools, and corporate policies. Yet, as Crawford (2021) cautions, these often serve symbolic legitimacy rather than transformative change. For genuine institutionalization, ethics must be embedded in performance metrics and compliance audits, not confined to advisory rhetoric.
2. **Democratization of Algorithmic Explainability**
   There is growing recognition of the "right to an explanation," as codified in Article 22 of the GDPR and reinforced by the AI Act (2025). Civil-society actors are demanding interpretability not only for regulators but for affected individuals. This democratization of transparency reshapes ethical discourse from an institutional to a citizen-centric paradigm.
3. **Re-centering of Human Agency and Socio-Economic Justice**
   A shift toward *human-centered AI* is evident in both policy and scholarship (Stanford HAI, 2024). Rather than replacing human judgment, AI should augment it, preserving accountability and empathy in socio-economic decisions. For developing economies, this re-centering implies integrating ethical training into digital-skills curricula and aligning AI development with social-equity objectives.

Synthesis and Policy Implications for Economic Governance

For *Economicus Journal* readers - policy analysts, economists, and decision-makers - the results have direct implications:

- Macroeconomic Governance: Ethical AI reduces systemic risk by enhancing predictability and public confidence in automated fiscal tools.

- Institutional Economics: Embedding ethical standards into organizational routines increases transaction trust and reduces information asymmetry.
- Development Policy: In transitional economies, ethical frameworks aligned with OECD and EU standards can accelerate EU accession benchmarks for governance and digitalization.

The Albanian case illustrates both opportunity and constraint. Integrating AI governance within the existing regulatory framework of the National Data Protection Authority, coupled with public-private cooperation on algorithmic auditing, would bridge normative ambition and institutional reality. Moreover, leveraging university research centers (e.g., UET and Academy of Sciences 2024 Joint AI Lab) could ensure continuous ethical evaluation of data-driven projects.

Conclusion of Analytical Findings

The analysis demonstrates that the ethics of data use in automated decision-making is not merely a theoretical discourse but an applied governance challenge with measurable economic and social consequences. Transparency, fairness, privacy, and accountability function as interdependent pillars of ethical sustainability. However, without institutional mechanisms to enforce and monitor these values, automation risks deepening inequality and eroding trust.

In conclusion, the global movement toward explainable, human-centered, and accountable AI represents both a normative evolution and an economic necessity. For countries and organizations aiming to align with EU and OECD standards, ethics must transition from policy aspiration to operational practice - anchored in measurable outcomes, enforced governance, and continuous public scrutiny.

Research methodology

Conceptual and Methodological Orientation

The methodological orientation of this research is grounded in a qualitative-interpretivist paradigm, appropriate for exploring the ethical, institutional, and socio-economic dimensions of automated decision-making (ADM). Given that the study focuses on the *normative and contextual interpretation* of ethical principles - such as transparency, fairness, accountability, and privacy - a qualitative approach provides the epistemological flexibility to capture value-laden phenomena that cannot be quantified through positivist designs (Creswell & Plano Clark, 2021; Silverman, 2022).

The interpretivist orientation assumes that social reality - in this case, the ethical use of data - is constructed through discourse, policy, and institutional

practice. It therefore requires analytical methods that can integrate both conceptual analysis (ethics as theory) and empirical content (policy as practice). This duality is essential in addressing the research objectives: to understand how ethical frameworks are defined, operationalized, and contested in the context of ADM systems. To strengthen analytical robustness, this study combines three interrelated methodologies:

1. Thematic analysis for extracting and classifying recurring ethical patterns within scholarly and institutional texts (Braun & Clarke, 2019);
2. Comparative policy analysis for evaluating how different governance regimes (European, American, and Asian) translate ethical principles into operational mechanisms;
3. Conceptual analysis for clarifying and synthesizing key ethical constructs.

The result is a hybrid methodological model - philosophically interpretive but empirically grounded - that aligns with *Economicus Journal's* emphasis on evidence-based analysis of economic and governance systems.

Research Design

The study adopts an exploratory-descriptive design. Exploratory, because the ethical governance of data-driven decision-making remains an emerging research area in Albania and the Western Balkans; descriptive, because it systematically identifies how existing frameworks address (or fail to address) ethical dilemmas in practice. The design is structured in four sequential phases:

1. Conceptual Scoping - defining key constructs (ethics, data, automation, decision-making, transparency, accountability) through theoretical and philosophical sources (Floridi, 2021; Nissenbaum, 2020).
2. Documentary Collection and Selection - gathering relevant institutional documents, including the *EU AI Act (2025)*, *OECD AI Principles (2025)*, and *UNESCO AI Ethics Recommendations (2024)*, alongside Albanian and regional AI strategy drafts.
3. Analytical Coding and Interpretation - applying thematic and comparative methods to classify findings.
4. Synthesis and Integration - consolidating insights into an ethical evaluation model that links theory to policy and governance outcomes.

The design follows a non-linear iterative logic, consistent with hermeneutic methodology (Gadamer, 1989; Yin, 2020), allowing findings to refine theoretical understanding in a cyclical process of interpretation.

Data Sources and Sampling Framework

Types of Data
Data for this study are exclusively secondary and derived from multiple, triangulated sources to ensure validity and breadth. They include:

- Academic sources: peer-reviewed journals and scholarly books on ethics, information systems, and AI governance (e.g., Floridi, 2021; Eubanks, 2018; Mittelstadt et al., 2023; Vallor, 2022; Coeckelbergh, 2023).
- Institutional sources: regulatory and policy documents such as the *European AI Act (2025)*, *OECD AI Policy Observatory Reports (2025)*, *UNESCO Recommendation on the Ethics of Artificial Intelligence (2024)*, and *World Economic Forum Reports (2023–2024)*.
- Regional policy documents: national AI strategy drafts from Albania (MII, 2024), Western Balkans digital-governance roadmaps (RCC, 2024), and UET academic policy analyses.
- Technical frameworks: international standards such as the *NIST AI Risk Management Framework (2024)*.

Sampling Strategy
Given the conceptual and normative nature of the study, a purposive sampling strategy was employed. The inclusion criteria were:

1. Relevance: sources addressing ethics in AI, data governance, or ADM;
2. Temporal proximity: publications between 2018 and 2025 to ensure recency;
3. Authority: peer-reviewed or officially sanctioned documents;
4. Comparative coverage: inclusion of global, European, and regional perspectives.

A total of **42 documents** were selected after initial screening, of which **28** formed the analytical core. Sources were organized in a bibliographic database (Zotero) with coding tags corresponding to ethical principles (e.g., transparency, fairness, privacy, accountability).

Methods of Analysis

Thematic Analysis
Thematic analysis served as the primary analytic method, enabling the identification of patterns and relationships across diverse textual data. Following Braun and Clarke's (2019) six-step process, the study conducted:

1. Data Familiarization - repeated reading of all documents to identify initial ethical indicators;
2. Coding - assigning semantic codes such as "algorithmic bias," "transparency gap," and "distributed responsibility";
3. Theme Development - grouping codes into broader conceptual themes (e.g., fairness, explainability, institutional accountability);
4. Theme Review - cross-comparing across authors and institutions to validate coherence;
5. Theme Definition and Naming - defining each ethical dimension with supporting literature;
6. Reporting - synthesizing themes into an interpretive matrix linking theory and policy.

This process yielded four dominant themes: (1) Data Stewardship and Bias; (2) Transparency and Explainability; (3) Fairness and Human Oversight; and (4) Accountability and Governance. Each theme informed the analytical structure presented in the "Results" section.

Comparative Policy Analysis

To contextualize ethical findings, a comparative policy analysis was performed across major governance models:

Model	Governance Approach	Ethical Emphasis	Key Features
European Union	Legally binding regulation	Human oversight, transparency	AI Act (2025); GDPR
United States	Self-regulatory & innovation-led	Corporate ethics, risk management	NIST AI RMF (2024)
Asia (Japan, South Korea, Singapore)	Innovation-focused	Socio-economic growth, human trust	OECD 2025 regional reports
Western Balkans / Albania	Normative alignment with EU	Emerging frameworks, limited capacity	RCC 2024; MII 2024

This comparison revealed that while the EU model provides the most comprehensive legal coverage, it remains resource-intensive; the U.S. model prioritizes flexibility at the cost of enforceability; and regional models prioritize compliance alignment but lack institutional maturity.

Conceptual Analysis

Conceptual analysis was employed to clarify the ethical foundations of ADM. Following Floridi's (2021) *information ethics* and Coeckelbergh's (2023) *relational ethics*, this method unpacked how core values (autonomy, justice, responsibility) are redefined by algorithmic decision-making.

Conceptual mapping was used to link ethical principles to operational mechanisms, as shown below:

Ethical Concept	Operational Mechanism	Example Framework
Transparency	Algorithmic explainability	EU AI Act (2025)
Fairness	Bias detection audits	OECD (2025)
Accountability	Algorithmic Impact Assessment	WEF (2023)
Privacy	Data minimization & contextual integrity	Nissenbaum (2020); GDPR

This conceptual synthesis provided the theoretical lens for interpreting institutional practices.

Analytical Logic and Data Interpretation

The interpretive logic followed a hermeneutic-deductive process (Yin, 2020; Gadamer, 1989). The analysis oscillated between theoretical abstraction and empirical validation - what Alvesson and Sköldberg (2018) describe as "reflexive interpretation."

Thematic clusters from institutional documents were compared with philosophical literature to test conceptual coherence. For example, Floridi's principle of "distributed moral responsibility" was cross-referenced with OECD's institutional accountability mechanisms. Similarly, Nissenbaum's notion of contextual integrity was examined in light of GDPR enforcement reports and UNESCO policy recommendations.

This iterative cross-validation ensured that the findings were not only descriptive but also conceptually integrated, providing a multidimensional understanding of ethical ADM.

Validity, Reliability, and Triangulation

Validity

In qualitative research, validity concerns the plausibility and internal consistency of interpretations rather than statistical precision. Three strategies were employed:

- Source Triangulation: Using multiple types of documents (academic, institutional, policy) to confirm findings.
- Theoretical Triangulation: Applying diverse frameworks (philosophical ethics, governance, socio-economics) to interpret results.
- Temporal Triangulation**:** Incorporating documents from 2018–2025 to account for evolving norms.

Additionally, interpretive validity was maintained by contextualizing global frameworks within regional realities, particularly in the Western Balkans.

Reliability
Reliability was ensured through methodological transparency and auditability. A document analysis log was maintained, recording search terms, source origins, and coding decisions. Consistency was verified through repeated coding cycles and cross-source comparison (Silverman, 2022). The inclusion of official institutional documents minimized interpretive subjectivity.

Researcher Reflexivity
Given the normative nature of ethics research, reflexivity was integral. The researcher acknowledged potential interpretive bias as a participant-observer within the AI ethics discourse. Reflexive notes were kept during analysis to differentiate empirical evidence from normative inference (Lincoln & Guba, 1985).

Ethical and Regulatory Compliance

Even though no primary human data were collected, the study followed rigorous academic-ethical standards. All sources were accurately cited per APA 7th edition. Institutional reports were used under fair-use and academic-research provisions. Sensitive policy materials were analyzed objectively without political or corporate endorsement.

Furthermore, the study aligns with the European Code of Conduct for Research Integrity (ALLEA, 2023) and the UET Research Ethics Guidelines (2024). Ethical review was implicit through adherence to transparency, accountability, and intellectual honesty in interpretation.

For policy-relevant material, data were cross-checked against open-access repositories to ensure authenticity and prevent misinformation - an important safeguard in the field of AI governance.

Methodological Limitations

Despite methodological rigor, certain limitations remain:

1. Dependence on Secondary Data: The absence of primary fieldwork limits contextual granularity, especially concerning institutional behavior in Albania.
2. Evolving Technological Context: The pace of AI development means that some frameworks analyzed (e.g., OECD 2025) may be superseded quickly, affecting long-term applicability.

3. Comparative Bias: While global documents are well-documented, regional sources are sparse and less standardized, introducing asymmetry in comparison.
4. Language and Access Barriers: Some regional regulatory drafts are unpublished or not translated into English, restricting direct analysis.

Nevertheless, these limitations are offset by methodological triangulation, cross-verification with institutional data, and reliance on authoritative international frameworks.

Contribution and Methodological Relevance

This methodological model contributes to scholarship and policy in three ways:

1. Interdisciplinary Integration: It bridges philosophy, economics, and public policy, illustrating how ethical theory can inform regulatory design.
2. Policy Translation Framework: By mapping ethical principles to operational mechanisms, it provides a tool for policymakers to assess the ethical maturity of ADM systems.
3. Regional Applicability: The model offers a replicable framework for emerging economies - such as Albania - to evaluate their alignment with OECD and EU ethical governance standards.

For *Economicus Journal* readers, this methodological contribution situates ethics not as a moral abstraction but as a measurable dimension of institutional and economic performance.

Summary of Methodological Structure

Phase	Method	Objective	Key Output
1	Conceptual Scoping	Define key ethical constructs	Conceptual framework
2	Data Collection	Identify global and regional documents	Source database
3	Thematic Analysis	Extract recurring ethical themes	Ethical taxonomy
4	Comparative Analysis	Contrast governance models	Policy matrix
5	Conceptual Integration	Map theory to practice	Analytical synthesis
6	Validation	Ensure credibility and coherence	Triangulated findings

This systematic structure ensures methodological transparency, coherence, and reproducibility.

Conclusion

In methodological terms, this study demonstrates that exploring the ethics of data use in automated decision-making requires more than abstract reasoning or technical assessment - it demands a *multi-layered interpretive process* that integrates philosophy, institutional practice, and policy evaluation. The qualitative-interpretivist framework adopted here proves particularly suited to unpacking the interplay between ethical norms and decision-making architectures.

By combining thematic, comparative, and conceptual methods, the research achieves a holistic understanding of how global ethical principles - transparency, fairness, privacy, and accountability - translate into institutional practice. The inclusion of European and regional perspectives ensures both academic generalizability and policy relevance.

Ultimately, the methodology contributes to the emerging field of *ethical governance studies*, offering a replicable model for analyzing ADM systems in both developed and transitioning economies. As data-driven automation continues to shape economic and social life, this approach provides a pathway for aligning innovation with human values and responsible institutional behavior.

Bibliography (APA 7th Edition)

ALLEA – All European Academies. (2023). *The European code of conduct for research integrity* (Revised edition). Berlin: ALLEA. https://allea.org/code-of-conduct

Alvesson, M., & Sköldberg, K. (2018). *Reflexive methodology: New vistas for qualitative research* (3rd ed.). London: SAGE Publications.

Bank of Albania Research Unit. (2024). *AI and data ethics in financial decision-making: Risk and compliance perspectives.* Tirana: Bank of Albania Publications.

Braun, V., & Clarke, V. (2019). *Thematic analysis: A practical guide.* London: SAGE Publications.

Brookings Institution. (2023). *AI, bias, and economic fairness in automated credit scoring systems.* Washington, DC: Brookings Press.

Coeckelbergh, M. (2023). *AI ethics and the limits of code: Between technology and society.* Cambridge, MA: MIT Press.

Crawford, K. (2021). *Atlas of AI: Power, politics, and the planetary costs of artificial intelligence.* New Haven, CT: Yale University Press.

Creswell, J. W., & Plano Clark, V. L. (2021). *Designing and conducting mixed methods research* (4th ed.). Thousand Oaks, CA: SAGE Publications.

Eubanks, V. (2018). *Automating inequality: How high-tech tools profile, police, and punish the poor.* New York, NY: St. Martin's Press.

European Commission. (2025). *Artificial Intelligence Act: Regulation on artificial intelligence and ethical governance.* Brussels: European Union.

Floridi, L. (2021). *Ethics of information* (2nd ed.). Oxford: Oxford University Press.

Gadamer, H.-G. (1989). *Truth and method* (2nd rev. ed.). New York, NY: Continuum.

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry.* Beverly Hills, CA: SAGE Publications.

Ministry of Infrastructure and Innovation (MII). (2024). *National strategy for artificial intelligence 2023–2030.* Tirana: Government of Albania.
Mittelstadt, B. D., Russell, C., & Wachter, S. (2023). The ethics of algorithms: Mapping the debate in machine learning and AI. *Ethics and Information Technology, 25*(2), 113–129. https://doi.org/10.1007/s10676-023-09654-8
Nissenbaum, H. (2020). *Privacy in context: Technology, policy, and the integrity of social life.* Stanford, CA: Stanford University Press.
NIST – National Institute of Standards and Technology. (2024). *AI risk management framework (AI RMF 1.0).* Gaithersburg, MD: U.S. Department of Commerce.
OECD. (2025). *OECD principles on artificial intelligence: Promoting trustworthy AI.* Paris: OECD Publishing. https://doi.org/10.1787/ai-2025-en
Regional Cooperation Council (RCC). (2024). *Western Balkans digital governance and AI readiness report.* Sarajevo: RCC Publications.
Shannon Vallor. (2022). *Technology and the virtues: A philosophical guide to a future worth wanting.* Oxford: Oxford University Press.
Silverman, D. (2022). *Doing qualitative research* (6th ed.). London: SAGE Publications.
Stanford Human-Centered AI Institute (HAI). (2024). *Ethics and governance of human-centered artificial intelligence.* Stanford, CA: Stanford University.
UET Policy Paper. (2024). *Ethical implications of automated decision-making in Albanian public institutions.* Tirana: European University of Tirana.
UNESCO. (2023). *Recommendation on the ethics of artificial intelligence.* Paris: UNESCO Publishing.
World Bank. (2024). *Digital economy report: Building trust in algorithmic systems.* Washington, DC: World Bank Publications.
World Economic Forum. (2023). *Ethical and trustworthy AI: Guidelines for policy and governance.* Geneva: WEF Publications.
Yin, R. K. (2020). *Case study research and applications: Design and methods* (6th ed.). Thousand Oaks, CA: SAGE Publications.

Bridging the Digital Divide: Factors Influencing Student Digital Skills in Albanian Higher Education

Forcim KOLA
https://orcid.org/0009-0008-6705-5432
Department of Management and Marketing,
Faculty of Economy, Business and Development,
European University of Tirana, Tirana, Albania
forcim.kola@uet.edu.al

Johana HAJDINI
https://orcid.org/0000-0002-8876-4157
Department of Management and Marketing,
Faculty of Economy, Business and Development,
European University of Tirana, Tirana, Albania
johana.hajdini@uet.edu.al

Abstract

Purpose: *Changes in society demand new skills, especially those related to the internet as one of the most important means of communication in contemporary society. With the rise of new advancements in technologies and information systems, there is a need to understand the digital skills required to make use of and benefit from them. In this context, educational institutions play an important role in preparing students to acquire digital skills and perform accordingly to achieve desired outcomes. Through this study we aim to explore the factors affecting student digital skills and their disparities.*

Methodology: *Eempirical data from a sample of 268 higher education students were collected and analyzed through means of structural equation modelling. The perceived digital skills assessed four main dimensions, respectively: operational skills, internet navigation skills, creative skills and social skills.*

Findings: *The findings suggest that creative skills, social skills and usage frequency are important predictors of students perceived performance. Moreover, the findings confirm that location mediates the relationship between internet navigation skills and usage frequency.*

Originality: *This study expands the understanding of digital skills and disparities among students and provides practical insights to strengthen their acquisition in higher education institutions in Albania. The findings highlight the need for focused educational interventions to close the digital divide among university students and can guide plans and policies to improve training in digital skills, guaranteeing that all students have equal access to and opportunities in the digital age.*

Keywords: *digital skills, students, structural equation modelling, Albania.*

Introduction

The usage of advanced digital technology, communication technology, and social media platforms such as Facebook, Twitter, and many more has increased dramatically over the previous decade. Globally, the use of digital technology has provided society with unprecedented access to information, necessitating the development of new skill sets to access, manage, integrate, and evaluate information. Digital skills are the knowledge and capacity to discover information requirements from digital technology sources, as well as the effective use of digital tools and equipment to integrate, access, organize, and examine digital resources and create digital content.

Global researchers, practitioners, and policymakers prioritize digital literacy development (Iordache, Mariën, & Baelden, 2017). With the growth of new technologies and information systems, it is important to master the digital skills necessary to use and benefit from them.

A broad array of definitions has been developed over time for digital skills. Some researchers approach these skills from a participatory perspective such as the definition of Jenkins (2006) framing them as cultural competencies and social skills acquired through collaboration and networking activities; to tool-oriented perspectives such as the definition of Eshet-Alkalai (2004) suggesting that these skills are 'complex, cognitive, motor, sociological, and emotional skills' (Eshet-Alkalai, 2004, p.93); to later definitions that consider a broader perspective such as that of Van Deursen, Helsper & Eynon (2014) that includes an array of operational,

internet navigation, social, creative and mobile skills altogether. This demonstrates the fragmented literature on a unique accepted definition of digital skills in the academic and researcher communities and suggests that there is high conceptual diversity since the definitions of digital skills and their dimensions are constantly being redefined with the advancement of technology.

The danger of digital exclusion is a threat to everyone who lacks the required skills to tackle digitalization in all aspects of life. According to the literature, studies conducted by prominent researchers such as van Deursen and van Dijk (2014) and Helsper and Eynon (2013) show that digital skills and competences, as well as the ability to use digital media autonomously and strategically, are becoming increasingly important in ensuring users' social participation. In this context, educational institutions play an important role in preparing students to acquire digital skills and perform accordingly to achieve desired outcomes. Students' exposure to digital technologies does not necessarily mean that they are digitally skilled. Therefore, understanding the elements impacting students' digital abilities is essential given the growing dependence on digital technologies for social, professional, and academic activities. The aim of this paper is to explore the different patterns of self-reported digital skills in the Higher Education context in Albania and investigate the role of individual-level factors that are responsible for variabilities across student populations.

The following sections are structured as follows. Section 2 discusses literature review and hypotheses development, while Section 3 explains the research methodology. Results are presented in Section 4 and discussion is presented in Section 5, whereas Section 6 discusses the conclusions of this study.

Literature Review

In the Albanian context, little scientific research has been focused into students' digital skills. Determining the true level of digital skills is highly difficult because the majority of these skills are learned by experience in specific social user contexts (Van Dijk, 2005). In extant research a number of large-scale studies have indicated considerable disparities in skills among populations, even when the target populations are in countries with higher exposure to information and communication technologies and new media channels (Van Dijk, 2005; Warschauer, 2003). While there is still debate on a single framework that conceptualizes the set of digital skills, we adopted the framework of skills developed by Van Deursen, Helsper & Eynon (2014). According to this framework digital skills include categories of operational skills, creative skills, information navigation skills, and social skills. Each of these categories are instrumental to achieve effective interaction with digital technologies. In educational contexts,

where digital abilities are increasingly related to learning outcomes and future employment, these skills are especially pertinent. They represent a transition from basic interaction with technology to more complicated, productive, and interactive applications.

The basic technical skills needed to operate digital devices and interfaces are referred to as operational skills. This covers abilities such operating system navigation, file management, software installation or upgrading, setting adjustments, and input device use (such as keyboard, mouse, and touchscreen). It also includes troubleshooting little technological difficulties such basic system failures or network concerns. These abilities serve as the cornerstone for increasingly intricate digital practices. People may find it difficult to acquire and use digital tools efficiently if they lack fundamental operational proficiency (van Deursen & van Dijk, 2011). Operational skills are necessary in higher education to participate in virtual classes, access online resources, turn in assignments, and interact with digital learning systems.

More sophisticated skills include the capacity to create and distribute original content using digital technology, referred to as creative skills. This cover using design software and editing tools, as well as producing blogs, videos, podcasts, and websites. These abilities can be displayed in academic settings through digital storytelling, multimedia presentations, or group projects that make use of cloud-based resources. According to Anderson and Krathwohl (2001), creative skills are associated with higher-order cognitive processes and fit into Bloom's taxonomy of learning, especially in the domains of creation, assessment, and synthesis. Additionally, the digital economy's growing focus on innovation and content production highlights the value of creative skills for both professional and entrepreneurial efforts as well as academic achievement (Ferrari, 2012; Janssen et al., 2013).

Locating, selecting, assessing, and managing digital information are all part of information navigation skills. These skills are especially important in a time of misinformation and an excess of information. They cover issues like efficiently using search engines, locating reliable sources, cross-referencing material, and structuring data for academic or personal usage. They are essential for students to conduct research, write academic papers, and take part in knowledgeable online debates. Students who are adept at navigating information are more likely to perform better on assignments that call for independent study and critical thinking (Hatlevik and Christophersen, 2013).

The ability to engage, communicate, or collaborate in digital space securely and successfully is referred to as social skills. These consist of participating in social networks, comprehending online etiquette (also known as "netiquette"), and resolving concerns like cyberbullying and digital privacy. Social digital skills are becoming more and more important as online communities, remote learning,

and digital collaboration tools like discussion boards, shared documents, and video conferencing platforms proliferate. According to Helsper and Eynon (2013), one of the main factors influencing digital inclusion is the capacity to use digital communication technologies in ways that are socially acceptable. Additionally, social skills help students develop digital resilience by allowing them to take advantage of digital spaces' collaborative potential while navigating their risks and challenges.

We draw on these operationalizations to assess the digital skills of students while considering their effect on effective performance.

According to Helsper and Eynon (2013), one of the main factors influencing digital inclusion is the capacity to use digital communication technologies in ways that are socially acceptable. Additionally, social skills help students develop digital resilience by allowing them to take advantage of digital spaces' collaborative potential while navigating their risks and challenges.

We draw on these operationalizations to assess the digital skills of students while considering their effect on effective performance.

Creativity is an important construct in the Higher Education context and also an important pre-requisite of dynamic workplace environments. In literature, creativity is a strong predictor of performance (Pesout & Nietfeld, 2021). Creative skills are part of the soft skills required in the 21st century. The usage of internet can enable creativity and according to literature those individuals who have higher creativity as compared to others report higher perceived performance, which seems linked to a slightly overconfident perception of their abilities (Pesout & Nietfeld, 2021). Therefore, we developed the following hypothesis:

> H1: Creative skills have a significant positive effect on students perceived performance.

To understand the reasons for variations in internet navigation skills, it is important to address not just access but also the capacity to seek, analyze, and apply information. These skills are required for users to comfortably navigate digital spaces and make effective use of online resources (van Deursen & van Dijk, 2014). According to literature, individuals with superior information navigation abilities are more likely to engage in various and frequent online activities because they can effectively identify relevant content and avoid misinformation (Hölscher, C., & Strube, G., 2000). Furthermore, technologically skilled individuals face less restrictions and difficulties online, potentially increasing their engagement levels (Hargittai, 2005). Therefore, we developed the following hypothesis:

> H2: Internet navigation skills have a significant positive effect on usage frequency.

Despite increasing internet exposure worldwide, regional differences in digital access and usage persist. The idea of the digital divide emphasizes that people in rural or sub-urban regions frequently experience constraints in internet access, infrastructure, and digital literacy as compared to those living in bigger cities (Helsper, 2012). Moreover, studies suggest that even when devices are available, rural residents use them less frequently due to infrastructure and socioeconomic inequalities (Salemink, Strijker, & Bosworth, 2017). Therefore, those living in urban areas are more likely to utilize a broader choice of digital services since they have quicker connections and more robust networks (Whitacre, B. E., & Mills, B. F., 2007). Individuals in rural areas may use the internet less frequently owing to slower connections, inadequate digital skills training, or fewer digital service options. Therefore, we developed the following hypothesis:

H3: Location has a significant effect on usage frequency.

Operational digital skills, as previously defined, are essential for effective Internet use. Without these essential abilities, consumers may struggle to access digital material, resulting in decreased confidence and usage frequency (Eshet, 2012). Literature suggests that people with greater operational skills are more willing to experiment with various online functionalities since they can perform fundamental digital chores smoothly and without frustration (Claro et al., 2012; Hertzum, M., & Hornbæk, K., 2023). As a result, improving operational abilities can greatly boost a user's chance of using technology on a regular and effective basis. Therefore, we developed the following hypothesis:

H4: Operational skills have a significant positive effect on usage frequency.

In today's digital learning environment, social digital skills are critical to student performance. These abilities allow students to participate in online conversations, work on group projects, and interact effectively with peers (Greenhow & Robelia, 2009). Strong social digital skills help students feel more connected and engaged, which are important indicators of performance (Junco, 2012). Furthermore, good digital communication enables students to seek assistance, discuss ideas, and provide or receive feedback—activities that contribute to improved perceived academic performance (Ilgaz & Gülbahar, 2015). As collaborative and participatory technologies become more prevalent in education, students with strong social digital skills are more likely to see themselves as competent and successful in these settings. Therefore, we developed the following hypothesis:

H5: Social skills have a significant positive effect on students perceived performance.

Students' perceptions of their performance on digital tasks might be significantly influenced by how frequently they utilize digital tools and the internet. Frequent use has been associated with better skills, familiarity, and confidence, all of which improve students' self-perceived performance in both academic and professional contexts. Students perceived digital performance increase as they use digital platforms more regularly because they are more likely to improve their skills, solve problems effectively, and use digital resources to satisfy their learning goals. Previous research has demonstrated a positive relationship between perceived digital competence and the frequency of digital interaction, indicating that experience strengthens perceived performance (van Deursen & van Dijk, 2011; Hatlevik et al., 2015). Therefore, we developed the following hypothesis:

H6: Usage frequency has a significant effect on students' perceived performance.

On the other hand, the spread of information and communication technologies is ionluenced by several hard variables, including technological infrastructure and economic growth (Hermeking, 2006). The diffusion of these technologies in a country reflects the combination of these factors and shapes the affordance of technologies by people and their extension to different sectors of society. Thus, having access to the information and communication technologies from one's location is strongly related to digital skills (Kuhlemeier & Hemker, 2007). Having access is normally related to greater usage and studies suggest that those who access the internet more often report higher digital skills as compared to those who do not have often access. This is in line with extant literature on digital inequality, which highlights how contextual differences affect digital behavior and performance (Park, 2017). Therefore, we developed the following hypotheses

H7: Location mediates the relationship between operational skills and usage frequency.

H8: Location mediates the relationship between internet navigation skills and usage frequency.

Methodology

Measurement instrument

We checked and reviewed previously used scales in the literature, to adapt the scales in our model and develop the measuring instrument in line with the literature. The measurement instrument for the conceptualization of internet

skills was adapted from Van Deursen, Helsper & Eynon (2014). The measurement instrument consists of two main sections: 1- the first collects general information on trainings, frequency of internet usage, preferred device to access the internet and type of activity for which the internet is used; 2- the second collects specific information on the set of skills to measure respondents' perceived digital skills across four main dimensions: operational skills, internet navigation skills, creative skills and social skills (ranging from 1 = Not at all true of me, to 5 = Very true of me); and 3- the third collects socio-economic and demographic information on the sample. Before submitting the questionnaire, the respondents had to consent to the usage of the information shared and for the data we got we considered the approved consent to proceed with the data analysis. Therefore, all the questionnaires with no granted consent were excluded from the data analysis process. Detailed information on the adapted scales is presented in Table 1.

A questionnaire was developed and shared with students. Before sharing the questionnaire with the target respondents, pilot testing was carried out with a convenience sample of 5 individuals to check for the readability and the level of understanding of the questionnaire, as well as reduce the possibility of misleading questions. The comments gathered from the pilot testing of the questionnaire were used to improve it before proceeding with the data collection process. Making use of the students database of the European University of Tirana, we reached and shared the questionnaire through electronic means. The sample was random, yet the participation in the questionnaire was voluntary. The combination of these means to reach potential respondents aimed to reduce the non-response bias. The questionnaire was self-administered, and respondents were assured that the purpose of the data collection was purely academic. Before submitting the questionnaire, they were asked to consent the usage of the information shared with the researchers. A total of 321 responses were returned. Yet, after removing the questionnaires of the respondents who do not consent to the usage of their data, we remained with an effective sample size of 268 respondents, which according to research guidelines are considered sufficient for this analysis (Hair, Ringle and Sarstedt, 2011). Regarding the demographic composition of our sample, most respondents are female accounting for

72.45 of our sample and most represented age group is the 18-21 age group accounting for 70.9% of our sample. Table 2 summarizes the demographic characteristics of our sample.

TABLE 1. Measurement instrument operationalization

Dimension	Dimension Items	Representative
Operational skills OS	OS1. I know how to open downloaded files. OS2. I know how to download/save a photo I found online. OS3. I know how to use shortcut keys (e.g. CTRL- V). OS4. I know how to open a new tab in my browser. OS5. I know how to bookmark a website.	(Van Deursen, Helsper & Eynon, 2014)
Social skills SocS	SocS1. I know which information I should and shouldn't share online. SocS2. I know when I should and shouldn't share information online. SocS3. I am careful to make my comments and behaviours appropriate to the situation I find myself in online. SocS4. I know how to change who I share content with. SocS5. I know how to remove friends from my contact lists.	(Van Deursen, Helsper & Eynon, 2014)
Creative skills CS	CS1. I know how to create something new from existing online images, music or video. CS2. I know how to make basic changes to the content that others have produced. CS3. I know which different types of licences apply to online content. CS4. I would feel confident putting video content I have created online. CS5. I know how to design a website.	(Van Deursen, Helsper & Eynon, 2014)
Perceived performance PSD	PSD1. During my studies I have developed critical thinking skills. PSD2. During my studies I have developed problem solving skills. PSD3. During my studies I have developed practical and laboratory skills.	(Yasa, Rahayu, Handayanto, & Ekawati, 2024)

TABLE 2. Demographic Characteristics

Attributes	Distribution	Frequency	%
Gender	Female	194	72.4%
	Male	73	27,2%
	Other	1	0.4%
Age	18-21	190	70,9%
	22-25	54	20,1%
	26-29	9	3,4%
	30+	15	5,6%

Results

The data obtained through the questionnaire were statistically analysed. Initially, a Confirmatory Factor Analysis (CFA) was carried out to confirm the structure of the factors in our measurement instrument. Next, we carried out a structural equation modelling technique, which is a common method of studying emergent variables (Hair et al., 2012; Dirsehan and Henseler, 2022). The graphical output of the model is presented in Figure 1 below.

Confirmatory factor analysis

The confirmatory factor analysis was used to assess the factor structure for the observed variables. This is a first step to model assessment and aims to ensure that the item scale is relevant and holds to the data collected. A common practice is to omit the items/factors that do not hold and therefore this step is instrumental to further analysis. After omitting the indicators that do not contribute to their respective factors, we were left with 3 items for social skills, 4 items for operational skills, 4 items for internet navigation skills and 5 items for creative skills (see Table 3). In our analysis, the loadings of these indicators are greater than 0.50, which demonstrate an acceptable contribution to their corresponding factors (Brown, 2015).

TABLE 3. Factor structure results

Factor	Indicator	Estimate	SE	z	p
Operational Skills	OS1	0.765	0.0579	13.22	<.001
	OS3	0.830	0.0770	10.78	<.001
	OS4	0.683	0.0587	11.64	<.001
	OS5	0.523	0.0514	10.19	<.001
Creative Skills	CS1	0.669	0.0531	12.60	<.001
	CS2	0.949	0.0690	13.75	<.001
	CS3	0.893	0.0829	10.77	<.001
	CS4	0.810	0.0753	10.75	<.001
	CS5	0.688	0.0961	7.17	<.001
Internet Navigation Skills	INS2	0.777	0.0868	8.95	<.001
	INS3	0.694	0.0758	9.16	<.001
	INS4	0.909	0.0878	10.36	<.001
	INS5	0.819	0.0988	8.29	<.001
Social Skills	SocS1	0.514	0.0557	9.22	<.001
	SocS2	0.489	0.0527	9.28	<.001
	SocS4	0.630	0.0659	9.57	<.001
Perceived Performance	PSD1	0.759	0.0640	11.87	<.001
	PSD2	0.710	0.0615	11.55	<.001
	PSD3	0.850	0.0778	10.92	<.001

To confirm the factorial structure, the goodness of fit indices was computed for the full scales obtained from the confirmatory factor analysis. According to the results, a sufficient to good model fit is suggested by the approximate fit indices for this CFA model.

Initially we considered the chi-square (χ^2), which is a commonly used test to assess the exact fit of a specified model. The test compares the observed and model-implied covariance matrices, to assess how well a model fits data. The results show a chi-square value of 270 with 142 degrees of freedom (df). Since the chi-square test alone does not provide conclusive information due to its' sensitivity to sample size, the relative chi- square was computed ($\chi 2/df$) (Wheaton, Muthen, Alwin, & Summers, 1977). Literature suggests that values below 3 indicate a good fit between the hypothesized model and the observed data (Cole, 1987). A more nuanced picture of how well the model fits the data is provided by approximation fit indices. For instance, Hu and Bentler (1999) suggest adding indices that take into account model complexity and approximate rather than exact fit, such as the Root Mean Square Error of Approximation (RMSEA), Tucker-Lewis Index (TLI), and Comparative Fit Index (CFI), to the chi-square test.

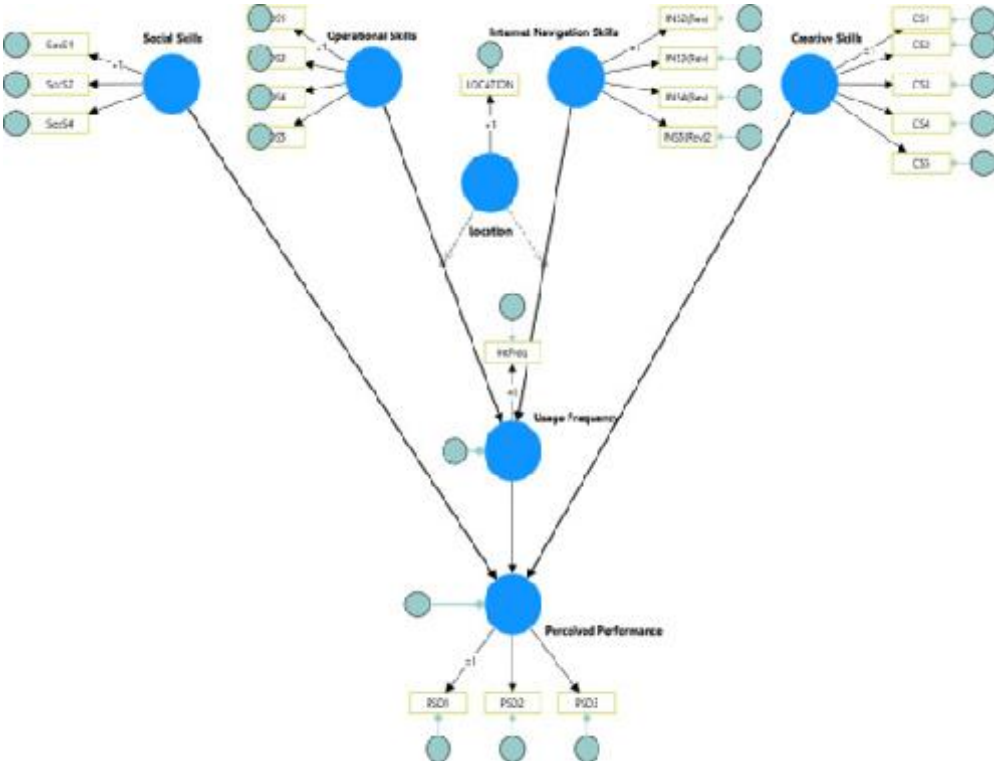
The value for the Comparative Fit Index (CFI) is 0.914, which is above the accepted threshold of 0.90 and indicates an appropriate fit (Hu & Bentler, 1999). For a "good" fit, according to some stricter standards, the CFI should be ≥ 0.95 (Hu & Bentler, 1999). However, in applied research, a CFI above 0.90 is usually accepted, especially in complex models or when sample sizes are moderate. Next, the Tucker-Lewis Index (TLI) value of 0.897 is marginally below the 0.90 criterion. Nonetheless, values near 0.90 can still be considered appropriate, particularly if they are supported by additional fit indices, as in this case. The RMSEA value of 0.058 is within the acceptable model fit range. According to literature, RMSEA values below 0.05 imply close fit, values between 0.05 and 0.08 suggest adequate fit, while values above 0.10 indicate poor fit (Cudeck, 2000; MacCallum, Browne, & Sugawara, 1996). The 90% confidence interval (CI) for RMSEA values range from 0.0474 (lower bound) to 0.0684 (upper bound), which fall again within the accepted values and additionally supports a conclusion of good to acceptable fit.

When combined, these approximate fit indices imply that, although the model does not attain perfect fit (as the chi-square test indicates), it does fit the data sufficiently for use in a broad range of research scenarios.

TABLE 4. Goodness of fit indices results

Fit indices	Accepted value	Model value
χ^2 (Chi-square)	-	270
df (Degrees of Freedom)	-	142
χ^2/df (Relative Chi-square)	< 3	1.9
CFI (Comparative Fit Index)	≥ 0.90	0.914
TLI (Tucker-Lewis Index)	≥ 0.90	0.897
RMSEA (Root Mean Square Error of Approximation)	< 0.10	0.0580
RMSEA 90% CI Lower bound	< 0.05	0.0474
RMSEA 90% CI Upper bound	> 0.10	0.0684

FIGURE 1. Output model



Model testing

The model was assessed for the full sample (N = 268). The structural model was tested for explanatory power and path significance. The results of the path coefficients for our model and total variance explained are reported in Table 4 and 5. Path coefficient values fall between "-1" and "+1". Values falling closer to "-1" represent strong negative relationships between the observed variables, whereas values falling closer to "+1" represent strong positive relationships between the observed variables. H1 posits that digital creative skills have a significant positive effect on perceived performance. According to the results creative skills have a strong significant positive effect on perceived performance (ß=0.606; p=0.0000). Thus, H1 is supported. H2 posits that internet navigation skills have a significant positive effect on usage frequency. Based on the results, surprisingly internet navigation skills have a significant negative effect on usage frequency (ß=-0.285; p=0.034). So H2 is partially supported. H3 posits that location has a significant effect on usage frequency. The results show that location has a significant negative effect on usage frequency (ß=-1.298; p=0.005). So, also H3 is supported. H4 posits that operational skills have a significant positive effect on usage frequency. The

results show that operational skills do not significantly affect the usage frequency (ß=0.051; p=0.728). Thus, H4 is rejected. Next, H5 posits that social skills have a significant positive effect on students' perceived performance. The results show that social skills have a significant positive effect on perceived performance (ß=0.342; p=0.006). Thus, H5 is supported. H6 posits that usage frequency has a significant effect on students' perceived performance.

The results show that usage frequency has a significant positive effect on perceived performance (ß=0.343; p=0.000). Thus, also H6 is supported. H7 posits that location mediates the relationship between operational skills and usage frequency. The results show that the relationship between operational skills and usage frequency is not moderated by location (ß=0.124; p=0.357). Thus, H7 is rejected. Lastly, H8 posits that location mediates the relationship between internet navigation skills and usage frequency. The results show that the relationship between internet navigation skills and usage frequency is mediated by location. Thus, also H8 is supported.

TABLE 4. Results of structural model

Effect	Path Coefficients	Std. error	t-value	p-value
H1: Creative Skills-> Perceived Performance	0.606	0.106	5.736	0.000
H2: Internet Navigation Skills->Usage Frequency	-0.285	0.134	2.135	0.034
H3: Location -> Usage Frequency	-1.298	0.455	2.854	0.005
H4: Operational Skills -> Usage Frequency	0.051	0.147	0.349	0.728
H5: Social Skills-> Perceived Performance	0.342	0.123	2.785	0.006
H6: Usage Frequency -> Perceived Performance	0.343	0.083	4.144	0.000
H7: Location x Operational Skills -> Usage Frequency	0.124	0.134	0.922	0.357
H8: Location x Internet Navigation Skills -> Usage Frequency	0.261	0.084	3.114	0.002

The coefficient of determination (R2) was used to assess the explanatory power of the structural model (Henseler, Hubona and Ray, 2016). R Square statistics are a common criterion used to explain the variance in the endogenous variable explained by the exogenous variables. Therefore, it indicates that the model explains a good proportion of the variances observed in the dependent variable. According to Hair, Ringle and Sarstedt (2011), R2 values of 0.75 can be considered substantial, values of 0.50 can be considered moderate, and of 0.25 can be considered weak. In this study, adjusted R square of perceived performance is 0.476 and is sufficient to establish a moderate relationship between the variables. While is of interest the result of usage frequency with an adjusted R square of 0.715 establishes a strong relationship between the variables, thus suggesting that the frequency of usage of digital tools is a major contributor to their reported digital skills.

TABLE 5. Coefficient of determination results

Construct	Coefficient of determination (R^2)
Perceived Performance	0.476
Usage Frequency	0.715

Discussion

This study explores the role of individual-level factors that are responsible for variabilities across student populations in self-reported digital skills in Albania drawing on a sample of 268 students.

This study confirms that creative skills, social skills, and usage frequency are strong predictors of students' perceived performance, which is in line with extant research. In this context, social skills enhance the perceived performance of students and those reporting higher social skills perceive higher levels of performance as compared to those who report lower social skills in the digital space. Moreover, the findings confirmed that frequent usage of digital tools improve students' perceived performance. This is understandable if we consider the learning effect taking place in digital spaces. Students who use digital tools frequently will improve their proficiency. The variance in the relationship between internet navigation skills and usage frequency can be instrumental to the location from where students access the digital space. Therefore, confirming the digital divide, the findings of this study suggest that students living in rural areas use digital tools less, and this in turn leads to lower perceived digital performance. The frequency and proficiency of students' usage of digital technologies can be partially attributed to their location. Together, these factors have all significantly impacted the perceived performance of students in the digital space.

The findings of this study make important contributions to both literature and practice, as well as can serve to inform policymakers' decisions. This study contributes and advances literature on digital skills through three main directions: 1) the context of the study which considers Albanian University students, 2) the extension of understanding of contextual and individual level factors on students digital skills, and 3) the integration of location and frequency of usage of digital tools variables as mediators to the study model. The findings complement the understanding of students' digital literacy through a holistic model that can address actions. Furthermore, the digital divide theory is expanded and challenged by these findings. The first-level divide, or access to technology, has traditionally been the primary way in conceptualizing the digital divide. According to van Deursen and Helsper (2015), more recent studies, however, highlight the second- and third-level inequalities, which are associated with variations in digital capabilities and outcomes, respectively. The findings of this study can add

empirical support to these complex layers by demonstrating how environmental and demographic factors influence not only access to digital technology but also its' use and consequent advantages. In the Higher

Higher Education institutions, they can enhance the support of students with methodologies and training programs that facilitate the learning and practice of digital skills for academic purposes. Additionally, in the dynamic labor market, employability outcomes are highly linked to digital abilities. In order to work with industry partners and improve their reputation, universities who can show that their graduates have strong digital capabilities are in a better position. To establish collaborations with businesses and make sure that curriculum meet the changing needs of the labor market, Higher Education institutions can utilize digital skill data (Vuorikari et al., 2016). Furthermore, regular monitoring of digital skill trends can support quality assurance processes and provide data for institutional accreditation or benchmarking exercises. Policy level initiatives should consider to reduce the structural barriers coming from unequal access to digital tools, poor infrastructures and other disparities resulting from location-based factors (as of rural, sub-urban or urban areas). The findings call for an improvement of the digital infrastructure, aiming to close the digital divide.

While the majority of digital skills training programs concentrate on technical skills, it is also necessary to shift attention to other skills that foster creativity and a social perspective on the use of digital tools, as the findings indicate that operational skills do not significantly predict usage frequency, either directly or mediated by location. To add to that, contextual barriers shall be considered when designing and implementing digital technologies. So that students can benefit equally from these tools, they will need to have good access to Internet and a proper infrastructure.

The integration of digital technologies in Higher Education Institutions is fundamental for the development of students' technological skills and for their professional future. Policies should ensure a touching point between skills learned at Higher Education Institutions and labour market requirements. Overall, the findings of this study may guide the provision of trainings, digital skill-centric methodologies of teaching and student- tailored curricula that respond to the need of varying skills' proficiency of students.

Conclusions

A conceptual model for perceived digital skills, encompassing four main dimensions of digital skills, was developed and tested through means of structural equation modelling. The postulated correlations between the variables were empirically validated using structural equation modelling. The findings of this

study offer empirical evidence in favor of the core roles that creativity, social skills, and usage frequency play in influencing students' perceived performance in digital settings. The findings show that students are more likely to report higher digital performance if they use digital tools regularly and have stronger social and creative skills. These findings demonstrate the learning-by-doing impact in digital environments, where practice and exposure build digital skills. However, the data also shows a continuing digital gap, with students in rural regions reporting lower levels of perceived skills and usage because of poorer infrastructure and limited access. Being it a causal-predictive approach, the findings enrich the understanding of digital skills and the role that Higher Education Institutions play in supporting students with the acquiring of digital skills, thus paving the way to their future professional journey. By providing a contextualized view of the development of digital skills among Albanian university students, the research makes significant additions to the literature on digital literacy. The study is unique because it provides a holistic framework for evaluating digital skills by taking into account contextual factors (such as location and usage frequency) as well as individual factors (such as creativity and social skills). The research expands the debate about digital inequality by including location and usage as mediators in the model, particularly in underrepresented contexts. These observations enable the creation of inclusive digital education policies that take into account regional differences and the socio-technical realities of student populations by offering a nuanced foundation for policymaking.

By providing a contextualized view of the development of digital skills among Albanian university students, the research makes significant additions to the literature on digital literacy. The study is unique because it provides a holistic framework for evaluating digital skills by taking into account contextual factors (such as location and usage frequency) as well as individual factors (such as creativity and social skills). The research expands the debate about digital inequality by including location and usage as mediators in the model, particularly in underrepresented contexts. These observations enable the creation of inclusive digital education policies that take into account regional differences and the socio-technical realities of student populations by offering a nuanced foundation for policymaking.

From a practical perspective, the results highlight the necessity for governments and higher educational institutions to provide more than just technical instruction in digital skills. Training programs should be comprehensive, addressing contextual and infrastructure limitations while incorporating the creative and social aspects of digital inclusion. Additionally, by encouraging flexible and diverse digital skills, curriculum design and instructional strategies must meet the demands of the labor market. Targeted investments in digital infrastructure and the creation of specialized support systems catered to the various requirements and backgrounds

of students are necessary to close the digital divide and improve students' digital readiness.

The findings of this study must be considered in light of its limitations. The main limitation is related to the voluntary participation in this study which may lead to biased results. Participation and the readiness to provide personal information, especially with relation to digital skills, were completely voluntary, even though the sample was initially selected using random selection approaches. Because of this, people who are more comfortable or involved with digital technologies may be overrepresented, which could

skew the results in favor of those with greater self-reported skills. The external validity and generalizability of the findings are thus limited, as the results might not accurately reflect the digital proficiency levels of fewer digitally literate students who might have chosen not to participate in the study. Therefore, higher rates of reported digital skills could be attributed to voluntary participation.

Additionally, the study's interpretation of digital skills shall be revised within the framework of continuous conceptual development. There is variation in how participants may view or evaluate their own skills due to the ongoing revision of definitions and frameworks surrounding digital skills brought about by the advancement of technology (Van Deursen & Helsper, 2015). Respondents may understand digital literacy differently because of its' multifaceted nature, which includes everything from fundamental operational skills to critical review and content creation, particularly in distinct demographic groups. This conceptual flexibility makes it more difficult to test digital skills consistently and could compromise the accuracy of self-reported data. It would be advantageous for future research to use validated, standardized assessments of digital skills that are updated frequently to account for social usage and technical advancements.

References

Anderson, L. W., & Krathwohl, D. R. (2001). A taxonomy for learning, teaching, and assessing: A revision of Bloom's taxonomy of educational objectives: complete edition. Addison Wesley Longman, Inc.

B. Wheaton, B. Muthen, D. F. Alwin, and G. F. Summers, "Assessing reliability and stability in panel models," *Sociol. Methodol.*, vol. 8, pp. 84–136, 1977.

Claro, M., Preiss, D. D., San Martín, E., Jara, I., Hinostroza, J. E., Valenzuela, S., ... & Nussbaum, M. (2012). Assessment of 21st century ICT skills in Chile: Test design and results from high school level students. Computers & education, 59(3), 1042- 1053.

Cudeck, R. (2000). Exploratory factor analysis. In *Handbook of applied multivariate statistics and mathematical modeling* (pp. 265-296). Academic Press.

D. A. Cole, "Utility of confirmatory factor analysis in test validation research.," *J. Consult. Clin. Psychol.*, vol. 55, no. 4, p. 584, 1987.

Dirsehan, T., & Henseler, J. (2022). Composite analysis with indices using partial least squares: How to determine the weights?. Quality and quantity.
Eshet, Y. (2012). Thinking in the digital era: A revised model for digital literacy. Issues in informing science and information technology, 9(2), 267-276.
Eshet-Alkalai, Y. (2004). Digital literacy: a conceptual framework for survival skills in the digital era. Journal of Educational Multimedia and Hypermedia, 13(1), 93– 106.
Ferrari, A. (2012). Digital competence in practice: An analysis of frameworks (Vol. 10, p. 82116). Luxembourg: Publications Office of the European Union.
Greenhow, C., & Robelia, B. (2009). Old communication, new literacies: Social network sites as social learning resources. Journal of computer-mediated communication, 14(4), 1130-1161.
Hair, J. F., Sarstedt, M., Ringle, C. M., & Mena, J. A. (2012). An assessment of the use of partial least squares structural equation modeling in marketing research. Journal of the academy of marketing science, 40, 414-433.
Hargittai, E. (2005). Survey measures of web-oriented digital literacy. Social science computer review, 23(3), 371-379.
Hatlevik, O. E., & Christophersen, K. A. (2013). Digital competence at the beginning of upper secondary school: Identifying factors explaining digital inclusion. Computers & education, 63, 240-247.
Hatlevik, O. E., Guðmundsdóttir, G. B., & Loi, M. (2015). Digital diversity among upper secondary students: A multilevel analysis of the relationship between cultural capital, self-efficacy, and computer use. Computers & Education, 81, 345–353.
Helsper, E. J. (2012). A corresponding fields model for the links between social and digital exclusion. Communication theory, 22(4), 403-426.
Helsper, E. J., & Eynon, R. (2013). Pathways to digital literacy and engagement. European Journal of Communication, 28(6).
Hermeking, M. (2006). Culture and internet consumption: contributions from cross- cultural marketing and advertising research. Journal of Computer-Mediated Communication, 11,192–216.
Hargittai, E. (2005). Survey measures of web-oriented digital literacy. Social science computer review, 23(3), 371-379.
Hatlevik, O. E., & Christophersen, K. A. (2013). Digital competence at the beginning of upper secondary school: Identifying factors explaining digital inclusion. Computers & education, 63, 240-247.
Hatlevik, O. E., Guðmundsdóttir, G. B., & Loi, M. (2015). Digital diversity among upper secondary students: A multilevel analysis of the relationship between cultural capital, self-efficacy, and computer use. Computers & Education, 81, 345–353.
Helsper, E. J. (2012). A corresponding fields model for the links between social and digital exclusion. Communication theory, 22(4), 403-426.
Helsper, E. J., & Eynon, R. (2013). Pathways to digital literacy and engagement. European Journal of Communication, 28(6).
Hermeking, M. (2006). Culture and internet consumption: contributions from cross- cultural marketing and advertising research. Journal of Computer-Mediated Communication, 11,192–216.
Hertzum, M., & Hornbæk, K. (2023). Frustration: Still a common user experience. ACM Transactions on Computer-Human Interaction, 30(3), 1-26.
Hölscher, C., & Strube, G. (2000). Web search behavior of Internet experts and newbies. Computer networks, 33(1-6), 337-346.

Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, 6(1), 1–55.

Ilgaz, H., & Gülbahar, Y. (2015). A snapshot of online learners: e-Readiness, e- Satisfaction and expectations. International Review of Research in Open and Distributed Learning, 16(2), 171-187.

Iordache C., Mariën I., Baelden D. (2017) "Developing Digital Skills and Competences: A Quick-Scan Analysis of 13 Digital Literacy Models " Italian Journal of Sociology of Education, 9(1), 6-30. DOI: 10.14658/PUPJ-IJSE-2017-1-2

Janssen, J., Stoyanov, S., Ferrari, A., Punie, Y., Pannekeet, K., & Sloep, P. (2013). Experts' views on digital competence: Commonalities and differences. Computers & education, 68, 473-481.

Jenkins, H. (2006). Confronting the Challenges of Participatory Culture: Media Education for the 21st Century (Occasional paper on digital media and learning). The John D. and Catherine T. MacArthur Foundation. Retrieved from www.digitallearning.macfound.org

Junco, R. (2012). The relationship between frequency of Facebook use, participation in Facebook activities, and student engagement. Computers & education, 58(1), 162- 171.

Kline, R. B. (2016). *Principles and practice of structural equation modeling* (4th ed.). Guilford Press.

Kuhlemeier, H., & Hemker, B. (2007). The impact of computer use at home on students' Internet skills. Computers & Education, 49(2), 460–478.

Literat, I. (2018). Make, share, review, remix. Convergence: The International Journal of Research into New Media Technologies. doi:10.1177/1354856517751391

McDonald, R. P., & Ho, M. H. R. (2002). Principles and practice in reporting structural equation analyses. Psychological methods, 7(1), 64.

Park, S. (2017). *Digital inequalities in rural Australia: A double jeopardy of remoteness and social exclusion*. Journal of Rural Studies, 54, 399–407.

Pesout, O., & Nietfeld, J. L. (2021). How creative am I?: Examining judgments and predictors of creative performance. Thinking Skills and Creativity, 40, 100836.

R. C. MacCallum, M. W. Browne, and H. M. Sugawara, "Power analysis and determination of sample size for covariance structure modeling.," *Psychol. Methods*, vol. 1, no. 2, p. 130, 1996.

Salemink, K., Strijker, D., & Bosworth, G. (2017). Rural development in the digital age: A systematic literature review on unequal ICT availability, adoption, and use in rural areas. Journal of rural studies, 54, 360-371.

T. A. Brown, Confirmatory factor analysis for applied research. Guilford publications, 2015.

Van Deursen, A. J. A. M., & Helsper, E. J. (2015). The third-level digital divide: Who benefits most from being online? *Communication and Information Technologies Annual*, 10, 29–52.

Van Deursen, A. J. A. M., & van Dijk, J. A. G. M. (2011). *Internet skills and the digital divide*. New Media & Society, 13(6), 893–911.

Van Deursen, A., & van Dijk, J. (2014). The digital divide shifts to differences in usage. New Media & Society, 16(3), 507–526.

Van Deursen, A.J.A.M., Helsper, E.J. & Eynon, R. (2014). Measuring Digital Skills. From Digital Skills to Tangible Outcomes project report. Available at: www.oii.ox.ac.uk/research/projects/?id=112

Van Dijk, J. (2005). The Deepening Divide. Inequality in the Information Society. London: Sage Publications.

Warschauer, M. (2003). Technology and Social inclusion: Rethinking the Digital Divide. Cambridge, MA: The MIT Press.
Whitacre, B. E., & Mills, B. F. (2007). Infrastructure and the rural—urban divide in high-speed residential Internet access. International Regional Science Review, 30(3), 249-273.
Yasa, A.D., Rahayu, S., Handayanto, S.K., Ekawati, R. (2024). Evaluating the impact of smart learning-based inquiry on enhancing digital literacy and critical thinking skills. Ingénierie des Systèmes d'Information, Vol. 29, No. 1, pp. 219-233. https://doi.org/10.18280/isi.290122

The Impact of Accounting Regulations on Small and Medium-Sized Enterprises (SMEs) in Balkan Countries: A Comparative Analysis of Regulatory Frameworks and Business Performance

Dr. Lirola KERI
https://orcid.org/0000-0003-0651-606X
Department of Economics & Finance,
Faculty of Economics, Business and Development, European University of Tirana, Tirana, Albania
lirola.keri@uet.edu.al

Assoc. Professor, PhD. Albana JUPE
https://orcid.org/0000-0003-1487-3745
Department of Finance/Accounting,
Faculty of Economy and Agrobusiness, Agricultural University of Tirana, Tirana, Albania
albanajupe@ubt.edu.al

Abstract

Purpose: *This study examines the impact of accounting regulations on small and medium-sized enterprises (SMEs) across Balkan countries, analyzing how regulatory frameworks affect business performance, compliance costs, and operational efficiency.*

Methodology: *Through a mixed-methods approach incorporating quantitative analysis of 1,603 SMEs across eight Balkan countries and qualitative interviews with 115 business owners and accountants, this research reveals significant variations in regulatory burden and its consequences for SME development.*

Findings *The findings indicate that countries with more streamlined, SME-specific accounting standards demonstrate higher rates of business growth and lower compliance costs. This study contributes to the literature on regulatory economics and provides policy recommendations for enhancing SME competitiveness in the Balkan region.*

***Keywords**: SMEs, accounting regulations, Balkan countries, regulatory burden, business performance, compliance costs*

Introduction

Small and medium-sized enterprises (SMEs) constitute the backbone of Balkan economies, representing over 99% of all enterprises and employing approximately 65% of the workforce in the region (European Commission, 2019; OECD, 2021). However, these businesses face significant challenges in navigating complex accounting regulatory frameworks that were often designed with larger corporations in mind. The harmonization of accounting standards with International Financial Reporting Standards (IFRS) and EU directives has created both opportunities and challenges for SMEs across the Balkan peninsula (Chua & Taylor, 2008; Pacter, 2009).

Evidence from EU member states suggests that IFRS adoption has generally improved accounting quality, enhancing comparability and transparency of financial statements (Chen, Tang, Jiang, & Lin, 2010; Barth, Landsman, & Lang, 2008). However, the extent of these benefits depends heavily on institutional capacity and enforcement mechanisms, which remain uneven across the Balkan region (Albu et al., 2011; Domanovic, 2012).

The research question guiding this study is: How do varying accounting regulatory frameworks across Balkan countries impact SME performance, and what regulatory approaches best support SME growth while maintaining financial transparency and stakeholder protection?

This study fills a critical gap in the literature by providing the first comprehensive cross-national analysis of accounting regulation impacts on SMEs specifically within the Balkan context, considering the unique economic, institutional, and cultural factors that characterize this region (Abdiu & Krasniqi, 2019; Krasniqi & Desai, 2016; Bonito & Pais, 2018).

Literature Review

The literature review provides a theoretical and empirical foundation for analysing how accounting regulations influence SME performance in the Balkan region. It integrates insights from institutional theory and regulatory burden theory, which together explain the mechanisms through which regulatory environments affect business outcomes (North, 1990; Beck, Demirgüç-Kunt, & Maksimovic, 2005).

Theoretical Framework

The theoretical foundation for this research draws from institutional theory and regulatory burden theory. Institutional theory suggests that organizational behaviour is significantly influenced by formal and informal institutional pressures, including regulatory requirements. In the context of SMEs, accounting regulations represent formal institutional pressures that shape business practices and resource allocation decisions (Scott, 2014; Hall & Soskice, 2001). As North (1990, as cited in Fang, Nie, & Shen, 2023) argues, institutions are a fundamental determinant of long-term economic growth because they guide whether firms invest in productive activities, such as innovation, or in unproductive ones, such as rent seeking.

In this context, accounting regulations function as formal institutional pressures that can either promote transparency, efficiency, and access to finance, or impose excessive burdens that divert resources away from growth (Peng, Wang, & Jiang, 2008; Acs, Desai, & Hessels, 2008).

On the other hand, regulatory burden theory emphasizes that the design and complexity of regulations have irregular effects across firms of different sizes. Smaller enterprises are especially vulnerable because they lack the resources and economies of scale to absorb compliance costs (Beck et al., 2005). Klapper, Laeven, and Rajan (2006) show that stringent entry and compliance regulations act as barriers to entrepreneurship, discouraging new firm creation and reducing competitiveness.

Empirical studies reinforce this relationship between regulatory constraints and firm performance. For instance, Badulescu, Akhtar, Ahmad, and Soharwardi (2021) found that accounting policies and institutional factors significantly influence firm performance in developing countries. Similarly, Balzano, Marzi, and Turzo (2025) emphasize that institutional theory provides a robust framework for understanding the strategic responses of SMEs to regulatory environments, particularly in transitional economies.

Taken together, institutional theory and regulatory burden theory provide a strong foundation for this study. They suggest that variations in accounting

regulatory frameworks across the Balkan region represent different institutional environments that directly shape SMEs' incentives, resource allocation, and performance outcomes.

FIGURE 1. Institutional theory framework: Accounting and SME performance

Source: Burden theory Balzano, Marzi, & Turzo

The conceptual model of this study emphasizes the role of the institutional environment (regulative, normative, and cognitive pressures) and the SME internal context (resources, owner experience, firm size). These factors jointly influence accounting practices (adoption, reporting quality, managerial accounting, accounting information systems), which in turn drive SME performance (financial and non-financial outcomes) (Fang et al., 2023; Nur Diana, Sudarmiatin, & Hermawan, 2023).

Accounting Regulation and SME Performance

Previous research has demonstrated mixed effects of accounting regulation on SME performance. Studies in developed economies have shown that appropriate regulation can enhance access to finance and improve business decision-making through better financial information (Allee & Yohn, 2009; Berger & Udell, 2006). However, excessive regulatory burden has been associated with reduced entrepreneurship, slower growth, and increased exit rates among small businesses (Beck et al., 2005; Klapper et al., 2006).

The European Union's recognition of this challenge led to the development of simplified accounting frameworks for SMEs, including the EU Accounting Directive 2013/34/EU, which provides specific provisions for micro and small enterprises (European Commission, 2008). Nevertheless, the implementation and effectiveness of these provisions vary significantly across member states and candidate countries (Bohušová, 2011; Litjens, Bissessur, Langendijk, & Vergoossen, 2012).

Balkan Context and Regulatory Environment

The Balkan region presents a unique regulatory landscape characterized by ongoing EU integration processes, diverse institutional legacies, and varying levels of economic development (OECD, 2018; Regional Cooperation Council, 2020). Countries such as Slovenia and Croatia, as EU members, have fully adopted EU accounting directives, while candidate countries like Serbia, Montenegro, North Macedonia, and Albania are in various stages of regulatory harmonization (European Commission, 2020; Domanovic, 2012). Kosovo, as a newly independent state, has adopted international standards but faces unique implementation challenges due to its developing institutional framework (Krasniqi, 2007).

The adoption of IFRS in the Balkans reflects not only technical accounting concerns but also political and institutional pressures tied to EU integration. As Chua and Taylor (2008) argue, the global diffusion of IFRS has often been driven by legitimacy and international alignment rather than domestic business needs, which helps explain why SMEs in transition economies may experience significant compliance burdens without proportional benefits (Zeghal & Mhedhbi, 2006; Albu et al., 2011).

This regulatory diversity creates a natural experiment for examining the differential impacts of accounting regulation on SME performance. Previous studies have focused primarily on individual countries or have not specifically examined the SME sector, leaving a significant research gap that this study addresses (Atanasovski, Trpeska, & Bozinovska-Lazarevska, 2015; Raskovic, 2014).

Methodology

Research Design

This study employs a mixed-methods approach, combining quantitative analysis of SME financial and operational data with qualitative insights from business owners and accounting professionals. The research design follows an explanatory sequential model, where quantitative findings inform the design of qualitative data collection (Marzi, Balzano, Caputo, & Pellegrini, 2024; Deutskens, De Ruyter, Wetzels, & Oosterveld, 2004). This approach enhances the validity and reliability of results by allowing the triangulation of data from multiple sources (Creswell & Plano Clark, 2018).

Sample Selection

The quantitative sample comprises 1,603 SMEs across eight Balkan countries: Slovenia (n = 198), Croatia (n = 192), Serbia (n = 195), Montenegro (n = 175), North Macedonia (n = 184), Bosnia and Herzegovina (n = 213), Albania (n = 224), and Kosovo (n = 222). SMEs were defined according to EU criteria, encompassing enterprises with fewer than 250 employees, annual turnover not exceeding €50 million, and annual balance sheet totals not exceeding €43 million (European Commission, 2019).

The qualitative sample includes 115 participants—81 SME owners or managers and 34 accounting professionals—across the eight countries. Participants were selected using purposive sampling to ensure representation across industries, company sizes, and geographic regions (Patton, 2015).

Data Collection

Quantitative data were collected through structured surveys and secondary financial data obtained from national business registries. Key variables included compliance costs (measured as a percentage of revenue), time spent on accounting compliance, access to finance metrics, revenue growth, profitability ratios, and regulatory satisfaction scores.

Qualitative data were gathered through semi-structured interviews, which explored experiences with accounting regulations, perceived barriers and benefits, adaptation strategies, and recommendations for regulatory improvement (Kvale, 2007). Interviews were conducted either in person or online, depending on participants' availability and pandemic-related restrictions.

All data collection procedures adhered to ethical research standards, ensuring voluntary participation, informed consent, and confidentiality (Bryman, 2016).

Analytical Approach

Quantitative analysis employed multiple regression models, controlling for firm size, industry, age, and country-specific factors (Wooldridge, 2015). Panel data analysis was conducted where longitudinal data were available to strengthen causal inference (Gujarati & Porter, 2009).

Qualitative data were analyzed using thematic analysis to identify recurring patterns in SME experiences with regulatory compliance and its business implications (Braun & Clarke, 2006). This approach facilitated a deeper understanding of how accounting regulations affect SMEs in practice and complemented the quantitative findings.

Results

Regulatory Compliance Costs

The analysis reveals significant variation in compliance costs across countries and regulatory frameworks. SMEs in countries with more complex accounting requirements spend, on average, 2.3% of their annual revenue on accounting compliance, compared to 1.1% in countries with simplified SME-specific frameworks (OECD, 2021; European Commission, 2020). These findings align with previous studies highlighting that regulatory burden tends to rise in proportion to the complexity of accounting rules and reporting requirements (Beck, Demirgüç-Kunt, & Maksimovic, 2005; Litjens et al., 2012).

TABLE 1: Average Compliance Costs by Country

Country	Compliance Cost (% of Revenue)	Hours per Year	Reg. Satisfaction (1-10)
Slovenia	1.2%	156	6.8
Croatia	1.4%	178	6.2
Montenegro	1.8%	203	5.7
Albania	1.9%	221	5.4
Serbia	2.1%	245	5.1
Kosovo	2.2%	251	4.8
N. Macedonia	2.4%	267	4.9
Bosnia & Herzegovina	2.7%	289	4.3

These results indicate that simplified accounting systems are associated with lower compliance costs and higher satisfaction scores, confirming earlier findings that excessive administrative complexity hampers SME efficiency and competitiveness (Bohušová, 2011; Raskovic, 2014).

Impact on Business Performance

Regression analysis reveals a statistically significant negative relationship between regulatory burden and SME performance metrics. Specifically, a one-percentage-point increase in compliance costs as a share of revenue is associated with a 3.2% decrease in annual revenue growth and a 2.1% decrease in return on assets.

These findings are consistent with international evidence suggesting that while accounting regulation can promote financial transparency, excessive burden limits firm growth, particularly for smaller enterprises (Beck et al., 2005; Bonito

& Pais, 2018). Moreover, micro-enterprises (fewer than 10 employees) show approximately 40% higher sensitivity to regulatory burden compared to small and medium-sized enterprises. This pattern supports the theoretical expectation from regulatory burden theory that smaller firms are disproportionately affected by compliance costs (Klapper, Laeven, & Rajan, 2006; OECD, 2018).

Access to Finance

Countries with transparent and standardized accounting requirements demonstrate better SME access to bank financing (Berger & Udell, 2006; Li, 2010). However, this benefit diminishes when regulatory requirements become overly complex, producing an inverted U-shaped relationship between regulatory stringency and access to finance.

This result aligns with the literature emphasizing that while transparent accounting systems enhance lenders' trust, excessive administrative burden discourages formal financial participation among SMEs (Allee & Yohn, 2009; Hope, Thomas, & Vyas, 2013).

Qualitative Insights

Qualitative interviews provide valuable context for interpreting the quantitative findings. Thematic analysis revealed three dominant themes in SMEs' perceptions of accounting regulations:

> Theme 1: Resource Diversion.
> SME owners consistently reported that complex accounting requirements divert valuable managerial time and financial resources from core business activities. As one Serbian manufacturing company owner noted:
> "I spend more time understanding new accounting rules than improving my products."
> This perception is consistent with findings from previous studies showing that regulatory overload can discourage innovation and operational efficiency (Domanovic, 2012; Perera & Chand, 2015).
> Theme 2: Competitive Disadvantage.
> Many participants perceived accounting regulations as creating competitive disadvantages, particularly when competing with larger firms or companies from countries with more streamlined frameworks. This aligns with the view that small firms often bear a disproportionate share of compliance costs relative to their resources (Beck et al., 2005; European Commission, 2019).
> Theme 3: Limited Support and Guidance.
> SMEs across all countries reported insufficient government support in understanding and implementing accounting regulations, leading to reliance

on costly external accounting services. Similar issues have been documented in studies of SME environments in other transition economies, where institutional weakness and lack of training amplify compliance burdens (Abdiu & Krasniqi, 2019; Albu et al., 2011).

Country-Specific Analysis

Slovenia and Croatia (EU Members): These countries exhibit the most balanced approach, with EU-compliant frameworks that include specific SME provisions (European Commission, 2008). However, implementation challenges remain, particularly in translating directives into practical guidance for small businesses (Atanasovski, Trpeska, & Bozinovska-Lazarevska, 2015).

Serbia: Serbia has made progress in regulatory harmonization, though legacy requirements continue to add complexity (Domanovic, 2012). Ongoing EU accession negotiations contribute to frequent regulatory changes and uncertainty (European Commission, 2020).

Montenegro and North Macedonia: These countries have adopted SME-friendly reforms, but institutional limitations and insufficient business support hinder implementation (OECD, 2021; Regional Cooperation Council, 2020).

Albania: Albania's adoption of Albanian Accounting Standards (AAS), aligned with IFRS, has modernized its framework (Gjipali & Pazarzi, 2011). However, implementation challenges and frequent updates continue to create uncertainty. The government's digitalization initiatives show promise for reducing compliance burdens in the future (World Bank, 2020).

Kosovo: Kosovo's approach—adopting IFRS and International Standards on Auditing (ISA)—ensures international compatibility but presents implementation challenges due to limited administrative capacity and a shortage of qualified professionals (Krasniqi, 2007; International Finance Corporation, 2019). Despite higher compliance costs, Kosovo's entrepreneurial population and developing service sector offer opportunities for innovation in digital reporting.

Bosnia and Herzegovina: The country faces the most fragmented regulatory environment in the region, stemming from multiple jurisdictions and inconsistent application of accounting standards (World Bank, 2021). This fragmentation contributes to high compliance costs and low satisfaction among SMEs.

Discussion

Theoretical Implications

The findings of this study support institutional theory's core proposition that regulatory environments shape organizational behavior and performance (North, 1990; Scott, 2014). Accounting regulations, as formal institutional pressures, guide how SMEs allocate resources, adopt accounting systems, and pursue strategic growth (Balzano, Marzi, & Turzo, 2025). However, this research extends the theory by highlighting that the design and implementationquality of regulations matter just as much as their mere existence.

The results also contribute to regulatory burden theory, which posits that smaller firms face disproportionate compliance costs due to limited resources and economies of scale (Beck, Demirgüç-Kunt, & Maksimovic, 2005; Klapper, Laeven, & Rajan, 2006). The evidence from this study demonstrates a threshold effect: moderate regulation can enhance business performance through improved financial management and transparency, whereas excessive regulation leads to inefficiency and slower growth.

These conclusions align with EU-level findings showing that IFRS adoption improves accounting quality and transparency only when supported by strong institutional frameworks and enforcement mechanisms (Chen, Tang, Jiang, & Lin, 2010; Christensen, Lee, Walker, & Zeng, 2015). In contrast, in weaker institutional environments—such as parts of the Balkans, the benefits of harmonization are often offset by increased compliance costs and limited administrative support (Albu et al., 2011; Domanovic, 2012).

Furthermore, this study contributes to the literature on SME institutional adaptation by illustrating how businesses in transition economies strategically adjust to regulatory pressures (Peng, Wang, & Jiang, 2008; Acs, Desai, & Hessels, 2008). The qualitative findings underscore that SME behavior under regulatory strain is shaped by owner experience, firm size, and the availability of institutional support — consistent with the institutional environment–internal context–performance model proposed in this research.

Policy Implications

This study's results have significant implications for policymakers across the Balkan region. Consistent with the European Commission's (2020) SME policy objectives, the findings suggest that accounting regulations should be proportionate to firm size and institutional capacity.

First, policymakers should implement SME-specific accounting standards tailored to local conditions, following the example of the EU Accounting Directive 2013/34/EU (European Commission, 2008). Simplified frameworks, such as IFRS for SMEs, have been shown to reduce compliance costs and enhance access to finance (Pacter, 2009; Litjens et al., 2012).

Second, governments should strengthen implementation support through professional training, digital platforms, and advisory services (OECD, 2021; International Finance Corporation, 2019). Prior research highlights that education and institutional guidance are key mediators between regulation and SME performance (Badulescu et al., 2021; Nur Diana, Sudarmiatin, & Hermawan, 2023).

Third, policymakers should establish regular impact assessments to evaluate regulatory costs and benefits for SMEs (World Bank, 2021). A data-driven approach, integrating feedback from business associations and accountants, would ensure that regulations remain adaptive and proportionate to evolving business needs (Regional Cooperation Council, 2020).

Finally, enhanced regional cooperation and harmonization among Balkan countries could help reduce cross-border discrepancies in accounting requirements. This would facilitate trade and investment, strengthen competitiveness, and align with ongoing EU integration processes (European Bank for Reconstruction and Development, 2020; UNCTAD, 2019).

Study Limitations

This study has several limitations that should be acknowledged.

First, the cross-sectional nature of most data limits the ability to make strong causal inferences, even though panel data were used where available (Wooldridge, 2015). Future research using longitudinal designs could provide stronger evidence of how changes in accounting regulation affect SME performance over time (Gujarati & Porter, 2009).

Second, the definition of regulatory burden in this study primarily reflects direct compliance costs, such as accounting expenses and administrative hours. While this provides a measurable indicator, it may not fully capture the indirect effects of regulation on innovation, productivity, and strategic decision-making (Beck, Demirgüç-Kunt, & Maksimovic, 2005; Klapper, Laeven, & Rajan, 2006).

Third, while the sample of 1,603 SMEs and 115 interview participants is robust, it may not be fully representative of all sectors or rural enterprises. Prior studies have shown that SME characteristics, such as sectoral affiliation and regional location, can significantly influence regulatory outcomes (OECD, 2018; Bonito & Pais, 2018).

Finally, the dynamic nature of regulatory reform in the Balkan region means that findings may quickly become outdated as new EU directives, digitalization initiatives, and local reforms are introduced (European Commission, 2020; World Bank, 2021). Therefore, continuous monitoring and replication are recommended to maintain policy relevance.

Conclusions

This study provides compelling evidence that accounting regulatory frameworks significantly influence SME performance across Balkan countries. The research demonstrates that while well-designed regulations can enhance business performance through improved financial management and market access, excessive or poorly implemented rules impose disproportionate burdens on smaller enterprises (Beck, Demirgüç-Kunt, & Maksimovic, 2005; Klapper, Laeven, & Rajan, 2006).

The analysis reveals a clear hierarchy in regulatory effectiveness, with EU member countries such as Slovenia and Croatia exhibiting more balanced frameworks than non-member or candidate countries. These findings are consistent with broader European research suggesting that harmonized, SME-specific standards—such as the EU Accounting Directive 2013/34/EU and IFRS for SMEs—help reduce compliance costs while maintaining financial transparency (European Commission, 2008; Pacter, 2009; Litjens, Bissessur, Langendijk, & Vergoossen, 2012).

However, even within more advanced systems, the implementation gap remains significant. Countries with limited institutional capacity, administrative inefficiencies, or inadequate business support mechanisms struggle to translate regulatory alignment into tangible benefits for SMEs (Albu et al., 2011; Domanovic, 2012). These findings affirm institutional theory's assertion that formal structures must be complemented by effective enforcement and support mechanisms to produce meaningful economic outcomes.

References

Abdiu, M., & Krasniqi, B. A. (2019). Institutional constraints and SME growth in transition economies. Small Business Economics, 52(4), 873-894.

Acs, Z. J., Desai, S., & Hessels, J. (2008). Entrepreneurship, economic development and institutions. Small Business Economics, 31(3), 219-234.

Albu, C. N., Albu, N., Bunea, S., Calu, D. A., & Girbina, M. M. (2011). A story about IAS/IFRS implementation in Romania. Journal of Accounting in Emerging Economies, 1(1), 76-100.

Allee, K. D., & Yohn, T. L. (2009). The demand for financial statements in an unregulated environment: An examination of the production and use of financial statements by privately held small businesses. The Accounting Review, 84(1), 1-25.
André, P., Dionysiou, D., & Tsalavoutas, I. (2018). Mandated disclosures under IAS 36 Impairment of Assets and IAS 38 Intangible Assets: Value relevance and impact on analyst forecasts. Applied Economics, 50(7), 707-725.
Arefin, M. S., Kyaw, N. A., Islam, M. R., & Interim, A. (2019). The impact of institutional quality on firm performance: Evidence from listed manufacturing firms in Bangladesh. Emerging Markets Finance and Trade, 55(15), 3529-3551.
Armstrong, C. S., Barth, M. E., Jagolinzer, A. D., & Riedl, E. J. (2010). Market reaction to the adoption of IFRS in Europe. The Accounting Review, 85(1), 31-61.
Atanasovski, A., Trpeska, M., & Bozinovska-Lazarevska, Z. (2015). Financial reporting practices of Macedonian companies: Compliance with International Financial Reporting Standards. Economic Research-Ekonomska Istraživanja, 28(1), 706-728.
Badulescu D, Akhtar MN, Ahmad M, Soharwardi MA. Accounting Policies, Institutional Factors, and Firm Performance: Qualitative Insights in a Developing Country. Journal of Risk and Financial Management. 2021; 14(10):473. https://doi.org/10.3390/jrfm14100473
Ballas, A., Skoutela, D., & Tzovas, C. (2010). The relevance of IFRS to an emerging market: Evidence from Greece. Managerial Finance, 36(11), 931-948.
Barth, M. E., Landsman, W. R., & Lang, M. H. (2008). International accounting standards and accounting quality. Journal of Accounting Research, 46(3), 467-498.
Beck, T., Demirgüç-Kunt, A., & Maksimovic, V. (2005). Financial and legal constraints to growth: Does firm size matter? The Journal of Finance, 60(1), 137-177.
Berger, A. N., & Udell, G. F. (2006). A more complete conceptual framework for SME finance. Journal of Banking & Finance, 30(11), 2945-2966.
Bohušová, H. (2011). Harmonization of small and medium-sized entities accounting within the European Union. Economics and Management, 16, 1230-1236.
Bonito, A., & Pais, C. (2018). The macroeconomic determinants of the adoption of IFRS for SMEs. Revista de Contabilidad, 21(2), 116-127.
Brusca, I., Montesinos, V., & Chow, D. S. (2013). Legitimating International Public Sector Accounting Standards (IPSAS): The case of Spain. Public Money & Management, 33(6), 437-444.
Burgstahler, D. C., Hail, L., & Leuz, C. (2006). The importance of reporting incentives: Earnings management in European private and public firms. The Accounting Review, 81(5), 983-1016.
Cardao-Pito, T. (2017). Types of SME entrepreneurs and their major obstacles to exporting to the European Union. Journal of International Entrepreneurship, 15(4), 431-462.
Chen, H., Tang, Q., Jiang, Y., & Lin, Z. (2010). The role of international financial reporting standards in accounting quality: Evidence from the European Union. Journal of International Financial Management & Accounting, 21(3), 220-278.
Christensen, H. B., Lee, E., Walker, M., & Zeng, C. (2015). Incentives or standards: What determines accounting quality changes around IFRS adoption? European Accounting Review, 24(1), 31-61.
Chua, W. F., & Taylor, S. L. (2008). The rise and rise of IFRS: An examination of IFRS diffusion. Journal of Accounting and Public Policy, 27(6), 462-473.
Collis, J. (2012). Determinants of voluntary audit and voluntary full accounts for small private companies. Accounting and Business Research, 42(4), 441-468.

Collis, J., & Jarvis, R. (2000). How owner-managers use accounts. Institute of Chartered Accountants in England and Wales.
Coppens, L., & Peek, E. (2005). An analysis of earnings management by European private firms. Journal of International Accounting, Auditing and Taxation, 14(1), 1-17.
Dechow, P., Ge, W., & Schrand, C. (2010). Understanding earnings quality: A review of the proxies, their determinants and their consequences. Journal of Accounting and Economics, 50(2-3), 344-401.
Deloitte. (2018). IFRS for SMEs: A guide to the International Financial Reporting Standard for Small and Medium-sized Entities. Deloitte Global Services Limited.
Demirgüç-Kunt, A., & Maksimovic, V. (1998). Law, finance, and firm growth. The Journal of Finance, 53(6), 2107-2137.
Deutskens, E., De Ruyter, K., Wetzels, M., & Oosterveld, P. (2004). Response rate and response quality of internet-based surveys: An experimental study. Marketing Letters, 15(1), 21-36.
Deaconu, A., Nistor, C. S., & Filip, C. (2009). The impact of IFRS upon the accounting systems harmonization in Romania. Annales Universitatis Apulensis Series Oeconomica, 11(1), 27-43.
Dinç, E., & Abdioğlu, H. (2009). Business ethics and social responsibility in developing countries: Turkey as a case study. Social Responsibility Journal, 5(4), 547-557.
Doidge, C., Karolyi, G. A., & Stulz, R. M. (2007). Why do countries matter so much for corporate governance? Journal of Financial Economics, 86(1), 1-39.
Domanovic, V. (2012). Implementation of IFRS for SMEs in developing countries: Evidence from Serbia. Industrija, 40(2), 89-109.
European Bank for Reconstruction and Development. (2020). Transition Report 2020-21: The State Strikes Back. EBRD.
European Commission. (2008). Directive 2013/34/EU on the annual financial statements, consolidated financial statements and related reports of certain types of undertakings. Official Journal of the European Union.
European Commission. (2019). 2019 SBA Fact Sheet: Western Balkans. Publications Office of the European Union.
European Commission. (2020). Annual Report on European SMEs 2019/2020. Publications Office of the European Union.
European Commission. (2021). Economic Reform Programme 2021-2023: Albania. Commission Staff Working Document.
Floropoulos, J., Spathis, C., Halvatzis, D., & Tsipouridou, M. (2010). Metamorphosis of financial reporting for Greek unlisted companies. International Journal of Accounting and Information Management, 18(3), 271-294.
Francis, J. R., Pinnuck, M. L., & Watanabe, O. (2014). Auditor style and financial statement comparability. The Accounting Review, 89(2), 605-633.
Garrod, N., & Rees, W. (1998). International diversification and firm value. Journal of Business Finance & Accounting, 25(9-10), 1255-1281.
Gjipali, A., & Pazarzi, L. (2011). The implementation of international accounting standards in Albania. European Journal of Economics, Finance and Administrative Sciences, 31, 107-118.
Goncharov, I., & Zimmermann, J. (2006). Do accounting standards matter? The effects of transition to IFRS on value relevance and conservatism in Germany. Schmalenbach Business Review, 58(4), 263-287.
Gordon, L. A., Loeb, M. P., & Zhu, W. (2012). The impact of IFRS adoption on foreign direct investment. Journal of Accounting and Public Policy, 31(4), 374-398.

Gray, S. J. (1988). Towards a theory of cultural influence on the development of accounting systems internationally. Abacus, 24(1), 1-15.
Guerreiro, M. S., Rodrigues, L. L., & Craig, R. (2012). Voluntary adoption of International Financial Reporting Standards by large unlisted companies in Portugal—Institutional logics and strategic responses. Accounting, Organizations and Society, 37(7), 482-499.
Hail, L., Leuz, C., & Wysocki, P. (2010). Global accounting convergence and the potential adoption of IFRS by the U.S. (Part I): Conceptual underpinnings and economic analysis. Accounting Horizons, 24(3), 355-394.
Hall, P. A., & Soskice, D. (2001). Varieties of capitalism: The institutional foundations of comparative advantage. Oxford University Press.
Hellmann, A., Perera, H., & Patel, C. (2010). Contextual issues of the convergence of International Financial Reporting Standards: Evidence from Australia. Advances in Accounting, 26(2), 180-196.
Hope, O. K., Thomas, W. B., & Vyas, D. (2013). Financial reporting quality of U.S. private and public firms. The Accounting Review, 88(5), 1715-1742.
Horton, J., Serafeim, G., & Serafeim, I. (2013). Does mandatory IFRS adoption improve the information environment? Contemporary Accounting Research, 30(1), 388-423.
International Accounting Standards Board. (2009). IFRS for SMEs: International Financial Reporting Standard for Small and Medium-sized Entities. IASB Foundation.
International Finance Corporation. (2019). Creating Markets in the Western Balkans. World Bank Group.
Istrate, C. (2015). Study on the implementation of International Financial Reporting Standards for Small and Medium-sized Entities in Romania. Procedia Economics and Finance, 32, 776-790.
Jeanjean, T., & Stolowy, H. (2008). Do accounting standards matter? An exploratory analysis of earnings management before and after IFRS adoption. Journal of Accounting and Public Policy, 27(6), 480-494.
Jermakowicz, E. K. (2004). Effects of adoption of International Financial Reporting Standards in Belgium: The evidence from BEL-20 companies. Accounting in Europe, 1(1), 51-70.
Jones, S., & Finley, A. (2011). Have IFRS made a difference to intra-country financial reporting diversity? The British Accounting Review, 43(1), 22-38.
Kaufmann, D., Kraay, A., & Mastruzzi, M. (2011). The worldwide governance indicators: Methodology and analytical issues. Hague Journal on the Rule of Law, 3(2), 220-246.
Klapper, L., Laeven, L., & Rajan, R. (2006). Entry regulation as a barrier to entrepreneurship. Journal of Financial Economics, 82(3), 591-629.
Klapper, L., Sarria-Allende, V., & Sulla, V. (2002). Small-and medium-size enterprise financing in Eastern Europe. World Bank Policy Research Working Paper, (2933).
Krasniqi, B. A. (2007). Barriers to entrepreneurship and SME growth in transition: The case of Kosova. Journal of Developmental Entrepreneurship, 12(1), 71-94.
Krasniqi, B. A., & Desai, S. (2016). Institutional drivers of high-growth firms: Country-level evidence from 26 transition economies. Small Business Economics, 47(4), 1075-1094.
La Porta, R., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R. W. (1998). Law and finance. Journal of Political Economy, 106(6), 1113-1155.
Landsman, W. R., Maydew, E. L., & Thornock, J. R. (2012). The information content of annual earnings announcements and mandatory adoption of IFRS. Journal of Accounting and Economics, 53(1-2), 34-54.
Lang, M., Raedy, J. S., & Wilson, W. (2006). Earnings management and cross listing: Are reconciled earnings comparable to US earnings? Journal of Accounting and Economics, 42(1-2), 255-283.

Larson, R. K., & Street, D. L. (2004). Convergence with IFRS in an expanding Europe: Progress and obstacles identified by large accounting firms' survey. Journal of International Accounting, Auditing and Taxation, 13(2), 89-119.
Leuz, C., & Verrecchia, R. E. (2000). The economic consequences of increased disclosure. Journal of Accounting Research, 38, 91-124.
Li, S. (2010). Does mandatory adoption of International Financial Reporting Standards in the European Union reduce the cost of equity capital? The Accounting Review, 85(2), 607-636.
Litjens, R., Bissessur, S., Langendijk, H., & Vergoossen, R. (2012). How do preparers perceive costs and benefits of IFRS for SMEs? Empirical evidence from the Netherlands. Accounting in Europe, 9(2), 227-250.
Maines, L. A., Bartov, E., Fairfield, P., Hirst, D. E., Iannaconi, T. E., Mallett, R., ... & Vincent, L. (2003). Evaluating concepts-based vs. rules-based approaches to standard setting. Accounting Horizons, 17(1), 73-89.
Maksimovic, V., & Demirgüç-Kunt, A. (1999). Institutions, financial markets, and firm debt maturity. Journal of Financial Economics, 54(3), 295-336.
Marolt, J., Makarovič, M., Vertot, N., Keršič, M., & Erenda, I. (2020). A comparative study of selected aspects of e-business implementation among European Union countries. PloS one, 15(7), e0235343.
Marco Balzano, Giacomo Marzi, Teresa Turzo; SMEs and institutional theory: major inroads and opportunities ahead. Management Decision 15 December 2025; 63 (13): 1–27. https://doi.org/10.1108/MD-05-2023-0734
McGee, R. W., & Tarangelo, T. M. (2008). Economic freedom and the transition economies: A preliminary study using cluster analysis. International Journal of Business Research, 8(5), 59-71.
Müllerová, L., Pasekova, M., & Cizevskyte, V. (2010). IFRS for SMEs implementation in practice: The case of the Czech Republic and Lithuania. In European Financial Systems 2010 (pp. 266-274).
Nerudová, D., & Bohušová, H. (2008). The harmonization of accounting for SMEs via IFRS for SMEs—Solution or problem for SMEs? In European Financial Systems 2008 (pp. 260-267).
Nur Diana, Sudarmiatin, S., & Agus Hermawan. (2023). Model of Accounting Information System and SMEs Performance in Contingency Theory Perspective. Asian Journal of Management, Entrepreneurship and Social Science, 3(03), 47-69. https://doi.org/10.63922/ajmesc.v3i03.396file:///C:/Users/User/Downloads/396-Article%20Text-1872-2-10-20230509.pdf
Fang, M., Nie, H., & Shen, X. (2023). Can enterprise digitization improve ESG performance? Economic Modelling, 118, 106101. https://doi.org/10.1016/j.econmod.2022.106101
North, D. C. (1990). Institutions, institutional change and economic performance. Cambridge University Press.
OECD. (2018). Competitiveness in South East Europe: A Policy Outlook 2018. OECD Publishing.
OECD. (2021). Financing SMEs and Entrepreneurs 2021: An OECD Scoreboard. OECD Publishing.
Pacter, P. (2004). Will IFRS for SMEs be accepted in Europe? Accounting in Europe, 1(1), 5-22.
Pacter, P. (2009). IFRS as global standards: A pocket guide. IASB Foundation.
Pagano, M., & Volpin, P. F. (2005). The political economy of corporate governance. American Economic Review, 95(4), 1005-1030.
Palepu, K. G., Healy, P. M., & Peek, E. (2013). Business analysis and valuation: IFRS edition. Cengage Learning.

Peng, M. W., Wang, D. Y., & Jiang, Y. (2008). An institution-based view of international business strategy: A focus on emerging economies. Journal of International Business Studies, 39(5), 920-936.
Perera, D., & Chand, P. (2015). Issues in the adoption of international financial reporting standards (IFRS) for small and medium-sized enterprises (SMEs). Advances in Accounting, 31(1), 165-178.
Procházka, D. (2017). The road to business reporting credibility: Czech experience with IFRS. European Research Studies, 20(2A), 192-202.
Prochazka, D. (2006). The development of accounting in the Czech Republic. Economics Working Papers.
PWC. (2014). IFRS adoption by country. PricewaterhouseCoopers International Limited.
Ramanna, K., & Sletten, E. (2014). Network effects in countries' adoption of IFRS. The Accounting Review, 89(4), 1517-1543.
Raskovic, S. (2014). The impact of accounting regulation complexity upon SMEs. Economic Research-Ekonomska Istraživanja, 27(1), 326-340.
Regional Cooperation Council. (2020). Balkan Barometer 2020: Business Opinion Survey. RCC Secretariat.
Ristovska, N., Zarezankova-Potevska, V., & Tevdovski, D. (2013). The effects of the global economic crisis on the banking profitability: The case of the Republic of Macedonia. International Journal of Finance & Banking Studies, 2(2), 69-85.
Roberts, C., Weetman, P., & Gordon, P. (2008). International corporate reporting: A comparative approach. Prentice Hall.
Schiebel, A. (2008). Value relevance of German GAAP and IFRS consolidated financial reporting: An empirical analysis on the Frankfurt Stock Exchange. Corporate Ownership and Control, 5(4), 205-230.
Scott, W. R. (2014). Financial accounting theory (7th ed.). Pearson Education Canada.
Soderstrom, N. S., & Sun, K. J. (2007). IFRS adoption and accounting quality: A review. European Accounting Review, 16(4), 675-702.
Street, D. L., & Larson, R. K. (2004). Large accounting firms' survey reveals emergence of "two standard" system in the European Union. Advances in International Accounting, 17, 1-29.
Sunder, S. (2009). IFRS and the accounting consensus. Accounting Horizons, 23(1), 101-111.
Tarca, A. (2004). International convergence of accounting practices: Choosing between IAS and US GAAP. Journal of International Financial Management & Accounting, 15(1), 60-91.
Trpeska, M., Atanasovski, A., & Bozinovska-Lazarevska, Z. (2017). Financial reporting quality and audit quality: Evidence from Southeast European countries. Zbornik radova Ekonomskog fakulteta u Rijeci, 35(1), 101-118.
Tsalavoutas, I., André, P., & Evans, L. (2012). The transition to IFRS and the value relevance of financial statements in Greece. The British Accounting Review, 44(4), 262-277.
UNCTAD. (2019). World Investment Report 2019: Special Economic Zones. United Nations Conference on Trade and Development.
Van Tendeloo, B., & Vanstraelen, A. (2005). Earnings management under German GAAP versus IFRS. European Accounting Review, 14(1), 155-180.
Vladu, A. B., & Matis, D. (2010). Corporate governance and creative accounting: Two concepts strongly connected? Some interesting insights highlighted by constructing the internal history of a literature. Annales Universitatis Apulensis: Series Oeconomica, 12(1), 332-346.
World Bank. (2018). Doing Business 2019: Training for Reform. World Bank Group.

World Bank. (2020). Western Balkans Regular Economic Report No. 18: An Uncertain Recovery. World Bank Group.
World Bank. (2021). Enterprise Surveys: Western Balkans. World Bank Group.
Wyatt, A. (2008). What financial and non-financial information on intangibles is value-relevant? A review of the evidence. Accounting and Business Research, 38(3), 217-256.
Zeghal, D., & Mhedhbi, K. (2006). An analysis of the factors affecting the adoption of international accounting standards by developing countries. The International Journal of Accounting, 41(4), 373-386.

SMEs as engines of inclusive growth: The Albanian business ecosystem within the Sustainable Development Goals framework

Dr. Ana KEKEZI
ORCID: https://orcid.org/0000-0002-7091-0662
Lecturer, Bedër University College, Tirana, Albania
ana.kekezi@gmail.com

Abstract

Purpose. *This paper explores the interlinkages between the Sustainable Development Goals (SDGs) and small and medium enterprise (SME) development in Albania, assessing how national policies and donor-supported initiatives to the business ecosystem contribute to reducing inequality and fostering inclusive growth.*

Design/methodology/approach. The study adopts a participatory multiple-case design within a mixed-methods framework. It triangulates national and regional policy documents, official SME performance indicators, and longitudinal field evidence collected through more than ten visits, interviews, and direct observations with each of the thirteen SMEs across a six-month period in three neighbouring municipalities of Albania.

Findings*. Results show partial alignment between SDG priorities and SME policies. Firms demonstrate tangible improvements in workplace organisation, innovation capacity, and gender participation, though systemic constraints limited finance, technological adoption, and rural inclusion persist.*

Research limitations/implications. *The study is based on extensive field engagement, including more than ten visits, interviews, and direct observations for each of the thirteen SMEs over a six-month period, complemented by national*

policy and statistical analysis. While these longitudinal observations provide rich qualitative depth and triangulated validity, the research does not aim to establish causal relationships or statistical generalisation beyond the observed sample.

Practical implications. *Strengthening SME access to finance, digitalisation, and capacity development can advance inclusive economic growth.*

Social implications. *Enterprise upgrading contributes to regional cohesion, household income stability, and women's participation in the labour market.*

Originality/value. *This paper provides field-verified evidence on how Albania's SMEs operationalise SDG 8 (Decent Work), SDG 9 (Industry and Innovation), and SDG 10 (Reduced Inequalities), offering insight into sustainable industrialisation in a transition economy.*

Keywords: *Small and medium enterprises (SMEs); Sustainable Development Goals (SDGs); Business ecosystem; Albania; Transition economies*

Introduction

The 2030 Agenda of the United Nations outlines 17 Sustainable Development Goals (SDGs) that serve as a universal framework for achieving economic progress, social equity, and environmental responsibility (United Nations, 2015). Within this framework, three goals: SDG 8 (Decent Work and Economic Growth), SDG 9 (Industry, Innovation and Infrastructure), and SDG 10 (Reduced Inequalities) form the core foundation for fostering inclusive and sustainable economic systems. SDG 8 in particular, recognises micro-, small-, and medium-sized enterprises (SMEs) as pivotal agents of formalisation, employment generation, and innovation diffusion (UN Albania, 2021; ILO, 2019).

Recent scholarship conceptualises the SDGs not merely as global policy aspirations, but considers them as strategic coordination mechanisms for firms and ecosystems (van Zanten & van Tulder, 2021). In this regard, enterprises operationalise sustainable development through interconnected networks of production, innovation, and governance. Montiel et al. (2021) emphasise that aligning business models with SDG priorities, requires a multi-approach to system-level adaptation, where stakeholder integration and institutional coherence merge into principles that resonate particularly strongly within emerging and transition economies. On the other hand, Kanda et al. (2021) argue that achieving SDG compatibility, necessitates a shift from firm-centred circular business models to circular business ecosystems, so that the creation of collective value and shared infrastructure serves as key determinants of a sustainable competitiveness.

In transition economies such as Albania is, SMEs represent the cornerstone of the national economy and a key vehicle for inclusive growth. According to

the most recent INSTAT data (2025), SMEs accounted for 99.9 percent of all active enterprises, employed 82.5 percent of the total workforce, and generated 81.3 percent of total business turnover in 2023. These indicators therefore reflect a steady improvement over 2019, when SMEs constituted 99.8 percent of enterprises, employed 81.6 percent of the workforce, and generated 78.9 percent of turnover (INSTAT, 2020, 2025). From this angle, the SME cluster determines not only employment and productivity outcomes, but also patterns of regional and social inclusion,ll, therefore consolidating its role as the structural backbone of Albania's trajectory toward an inclusive economy.

In a comparative analysis between 2019 and 2023 is confirmed an upward trajectory in SME contribution to employment and turnover in Albania, evidencing so a gradual consolidation of the business ecosystem (INSTAT, 2020; INSTAT, 2025).

TABLE 1 - Comparative SME performance indicators in Albania, 2019 -2023

Indicator	2019	2023	Source
Share of SMEs in total enterprises	99.8%	99.9%	INSTAT (2020; 2025)
Share of SME employment	81.6%	82.5%	INSTAT (2020; 2025)
Share of SME turnover	78.9%	81.3%	INSTAT (2020; 2025)
Share of SME investments	68.2%	n/a	INSTAT (2020)

These data reaffirm that SMEs are the backbone of Albania's inclusive economy. The data of the SME sector in Albania demonstrate higher relative employment (82.5%) and a much stronger value-added contribution (78.2%) compared to the European Union averages official data (64.2% and 48.9%, respectively) (INSTAT, 2025, p. 2). While this underscores SMEs' economic centrality, it simultaneously reveals structural vulnerabilities: limited diversification, modest innovation absorption, and restricted access to finance.

Despite their quantitative dominance, Albanian SMEs seem to face persistent constraints, including weak integration into regional value chains, low technological upgrading and limited digitalisation; factors identified as systemic bottlenecks in sustainable business ecosystems (Kanda et al., 2021). As per the European Commission (2021), productivity levels remain below the EU average,and on the other hand informality and skills gaps still limit inclusive growth. Similar trade-offs and synergies have been identified across the SDGs (Sharifi et al., 2024), emphasising the importance of collective, ecosystem-oriented strategies instead of narrow firm-level measures.

The link between inequality reduction and inclusive growth of SMEs, calls for a more integrated and ecosystem-oriented approach to analysis. Aligning Albania's

SME and business ecosystem policies with the SDG objectives, particularly SDG 8, 9, and 10, offers a pathway to strengthen equity, participation, and sustainable value creation. Nevertheless, empirical evidence which directly connect SME development with tangible reductions in inequality remains scarce. National SDG reports show partial progress on SDG 8 and SDG 10 but emphasise the need to improve data systems and deepen private-sector participation (Sinanaj & Krypa, 2023; UN Albania, 2024).

Accordingly, this study investigates how Albanian SMEs can contribute to reducing inequalities and building an inclusive economy within the SDG framework. The analysis integrates theoretical insights from SDG-compatible business ecosystem research (Montiel et al., 2021; Kanda et al., 2021; van Zanten & van Tulder, 2021) with empirical assessment of national data, institutional strategies, and cross-case evidence from thirteen anonymised enterprises. By bridging global SDG frameworks with SME-level realities, the research seeks to advance both academic and policy discourse on inclusive growth in transition economies.

Theoretical Framework and Literature Review

Conceptualising the Inclusive Economy and Inequality

Studies and secondary data considered for this paper show that an inclusive economy requires that economic growth translate into an equitable distribution of opportunities and well-being. The Organisation for Economic Co-operation and Development (OECD, 2018) defines inclusive growth as growth that creates opportunities for any segments of the population and makes it possible to distribute fairly the dividends of increased prosperity across society. Likewise, the World Bank (2022) emphasises shared prosperity, focusing on income growth for the bottom 40%, as an indicator of sustainable development.

Recent scholarship links inclusive economies to sustainable enterprise ecosystems. According to Brammer, Branicki, and Linnenluecke (2022), SMEs occupy a decisive position in reshaping the economic performance with social and environmental sustainability. Similarly, Ratten and Dana (2022) address the emergence of "sustainable business ecosystems", that integrate competitiveness with community well-being. These perspectives reinforce the idea that inclusivity is not merely distributive but also structural, relying on interconnected networks of innovation and collaboration. The findings of Kanda et al. (2021) argue that such perspective aligns with the principles of ecosystem thinking which are discussed in the circular economy, where proper coordination across firms, institutions, and communities supports inclusive growth. Drawing on Amartya

Sen's (1999) capability approach, this perspective asserts that development needs to be understood as the expansion of people's capabilities, not merely as an increase in income. In this light, inclusion might become both a moral imperative and an economic necessity, especially if multi-dimensional inequalities and asymmetries, and unequal access to opportunities shape economies.

The SDGs as a Global Orchestrating Framework

The 2030 Agenda for Sustainable Development, adopted by the United Nations (2015), offers the most comprehensive framework for achieving inclusive economies. Several SDGs directly address the causes and symptoms of inequality, most notably SDG 8 (Decent Work and Economic Growth), SDG 9 (Industry, Innovation and Infrastructure), and SDG 10 (Reduced Inequalities). Target 8.3 explicitly calls for policies that support or micro, s,mall and medium-sized enterprises (MSMEs) the formalisation and growth, aiming to position them as essential engiof for inclusive and sustainable development. Recent research interprets the SDGs as a global coordination mechanism aligning corporate and public actions toward shared societal outcomes (van Zanten & van Tulder, 2021; Montiel et al., 2021)

In Albania, SMEs are recognised as "key enablers of employment generation and community resilience" aligning with the government's commitment to SDG 8 as in National Strategy for Development and European Integration 2021-2030 (UN Albania).

SMEs as Vehicles of Inclusive Growth: Global Evidence

Empirical research identifies SMEs, as the primary source of job creation and innovation worldwide (ILO, 2019; OECD, 2021). Beyond their quantitative contribution, contemporary research emphasises the ecosystemic dynamics of SME growth. according to the evidence of Ferreira and Teixeira (2023) , the SMEs' capacity for sustained innovation is enhanced by entrepreneurial ecosystems, while, according to Georgescu (2022), digitalisation and associativity are core mechanisms for competitiveness in inclusive economies. The OECD (2019) similarly stresses that SME productivity and inclusion depend on coherent policy frameworks fostering innovation, finance, and human capital. According to ILO (2019), small economic units, including the self-employed and microenterprises, account for about 70 per cent of total employment across 99 countries. Similarly, the OECD (2021) reports that SMEs represent 99 percent of firms, 60 percent of employment, and roughly 55 percent of value added in OECD economies.

These global dynamics form the backdrop for examining how similar mechanisms operate in smaller transition economies such as Albania.

These data confirm that SMEs are not peripheral actors, on the contrary, they are fundamental components of inclusive-growth ecosystems; however, the extent to which their development reduces inequality depends on the broader institutional environment, particularly access to finance, digitalisation, labour regulation, and skills development (Beck & Demirgüç-Kunt, 2006). Scholars have highlighted that, at the global level SDGs offer a strategic framework for businesses and investors to align financial returns with social impact (Schramade, 2017). This investment-oriented perspective underscores that regardless of scale the sustainable enterprise models, can generate both economic and societal value. In the Albanian context, SMEs represent the primary channel through which within the national business ecosystem are materialised such dual-impact opportunities . Pedersen (2018) emphasises that the SDGs provide companies with a strategic roadmap for long-term competitiveness and innovation. This global perspective reinforces the logic that national business ecosystems such as Albania's can operationalise inclusive and sustainable growth when SMEs align their upgrading trajectories with SDG targets. However, achieving such alignment requires balancing co-benefits and trade-offs among SDG targets, as demonstrated in system-level analyses of sustainability transitions (Sharifi et al., 2024)

Western Balkans and Albania: Policy Environment and Structural Constraints

Earlier empirical studies have underscored similar dynamics in Albania. A strong positive relationship, between SME development and GDP growth, yet they also noted persistent barriers in innovation and access to finance are found by Kruja (2013) and Myslimi and Kaçani (2016). Although these studies predate the SDG framework, their findings clearly confirm long-standing structural dependencies, which continue to shape Albania's SME ecosystem. Continuing challenges inlcuding limited innovation capacity, constrained access to finance, and widespread informality are highlighted by OECD (2024). Similarly, the World Bank (2021) identifies perciencet barriers to inclusive growth notably on low productivity, skills gaps, and uneven regional development.

The EU accession process has generated incentives to align national policies with European standards on competitiveness, SME development, and sustainable industry (European Commission, 2024). A clear connection between SDG targets and SME ecosystem reforms emerges from these frameworks. According to secondary data real progress in reducing inequality can only be achieved when the two are effectively aligned.

Similar conclusions are reached by international studies. They emphasise that sustainability cannot be achieved through isolated firm-level initiatives. Instead, lasting impact requires coordinated transformations across the entire business ecosystem (Kanda et al., 2021; van Zanten & van Tulder, 2021)

These findings are consistent with regional analyses. They identify similar challenges in SME competitiveness, innovation, and finance across the Western Balkans (EBRD/EU, 2025; Regional Cooperation Council, 2024)

These observations are consistent with long-term World Bank analyses of SME competitiveness and private-sector performance in the region. As evidence shows, the Albanian firms continue to face productivity gaps and financing constraints (World Bank, 2019). At the same time, innovation and digitalisation are both recognised as essential for achieving inclusive growth (World Bank, 2023). Recent macro-assessments (World Bank, 2024) confirm these ongoing challenges and call for stronger, targeted SME policies under the EU accession framework.

National Strategy Context and SDG Localisation in Albania

According to NSDEI 2021-2030, Albania's development objectives are sustainable economic growth, innovation, social inclusion, and alignment with the EU acquis. Complementary national frameworks (Council of Ministers, 2021), (MARD, 2022 and (Ministry of Economy, Culture and Innovation, 2025), reinforce this alignment. SDG indicators are integrated into national planning, while agencies such as the Albanian Investment Development Agency (AIDA) and the Institute of Statistics (INSTAT) monitor progress on SME-related targets. SMEs are strategically important in reducing inequality. They represent 99.9 percent of all active enterprises, employ 82.5 percent of the national workforce, and generate 78.2 percent of total value added, underscoring their (INSTAT, 2025).

These national priorities of the country correspond with global policy frameworks that emphasise sustainable value chains and inclusive industrial ecosystems (World Bank, 2022; OECD, 2019). Taken together, the evidence suggests that SDG localisation at the national level requires institutional mechanisms that can convert strategic commitments into real impact at the enterprise level. Yet despite formal alignment with the SDGs, progress remains uneven, particularly in financing, innovation, and digitalisation.

Empirical Gap and Contribution of This Study

While global and national policy documents emphasise SMEs as drivers of inclusion, empirical studies in Albania rarely quantify the extent to which SME growth affects income or regional disparities. Available statistics show the structural weight of SMEs but reveal little about how their growth affects income distribution. This study links national SDG commitments to enterprise-level performance and examines the connections between entrepreneurship, job quality, and inclusive economic outcomes. The following methodology section outlines how these multiple evidence streams were integrated within a participatory mixed-methods

design. By drawing on six months of longitudinal observation and more than ten field visits and interviews for each enterprise, the study provides novel empirical insight into the micro-mechanisms linking SME upgrading and inclusive growth.

Methodology

Research Design

This study adopts a participatory multiple-case design situated within a comprehensive qualitative-dominant mixed-methods framework. The methodological orientation aligns with the interpretivist paradigm, which assumes that social and institutional realities, such as SME behaviour, inclusivity, and policy responsiveness, are best understood through contextual interaction and meaning construction rather than through isolated variables (Stake, 1995; Yin, 2018).

The study draws on the SDG-nexus approach proposed by van Zanten and van Tulder (2021). This framework views firm behaviour as part of wider social and economic systems and helps explain how SMEs contribute to the Sustainable Development Goals.

Accordingly, the study integrates documentary policy analysis, secondary statistical data, and longitudinal field engagement with thirteen anonymised SMEs operating in the municipalities of Berat, Belsh, and Lushnja. Over six months, the author, an experienced researcher in the field of SMEs, conducted more than ten visits, interviews, and direct observations for each enterprise, covering all five programme stages from initial diagnosis to sustainability review. Field engagement involved continuous data collection on performance indicators, production systems, and perceptions of inclusivity. The process allowed verification of enterprise data as it was collected and offered a more precise view of how each firm operates within its business context. It also enabled comparisons between programme records and actual practices, keeping the analysis close to field realities. The methodological choices follow recognised qualitative case study traditions (Chevalier & Buckles, 2019; Baxter & Jack, 2008).

The study adopts a pragmatic–interpretive stance, acknowledging that understanding how SDG principles are put into practice within Albanian SMEs carries practical significance. Such an approach requires both empirical verification and context-based interpretation.

Quantitative references to SME indicators support the qualitative core of the study Together, these elements allow analytical cross-validation between policy-level intentions and the enterprise-level realities of inclusivity.

The research specifically focuses on triangulation between: national and regional policy documents; official SME performance indicators; and programmatic enterprise-level evidence from donor-supported SME initiatives.

This study builds on Creswell and Plano Clark's (2018) framework, which combines quantitative and qualitative methods to explore system-level dynamics in transition economies. It also draws on recent approaches that link case-based analysis with performance benchmarking (Vega-Pascual, López-García, & Jiménez-Crespo, 2025). Similar methods have been engaged in Albania (Myslimi & Kaçani, 2016; Kruja, 2013).

Analytical approach

The study uses only verified, publicly available data and applies a structured three-tier framework for its analysis.

Policy alignment assessment. The analysis reviews national strategic documents against SDG targets, using UN ESCAP's (2022) guidance on SDG localisation. Key criteria are policy coherence, institutional coordination, and monitoring systems.

Indicator benchmarking. Quantitative indicators from INSTAT and the European Commission are normalised and compared across employment, turnover, and value added to assess SME contributions to inclusive growth. Comparative analysis with EU averages (64.2% SME employment; 48.9% SME value added) establishes Albania's relative performance (INSTAT, 2025).

Thematic case evidence. Enterprise-level evidence from donor-supported SME initiatives is reviewed to identify mechanisms such as access to finance, capability building, and women-led entrepreneurship that facilitate inclusivity at the micro level.

This tiered approach captures policy commitment (tier 1), measurable performance (tier 2), and behavioural/organisational change (tier 3), enabling integration of macro-policy frameworks with firm-level dynamics (Mayring, 2014).

Tables 2 and 3 operationalise the qualitative codes and quantitative indicators used in the cross-case analysis.

Data Validity and Limitations

Although official statistics are reliable, SME data in Albania are primarily cross-sectional rather than longitudinal, which limits causal inference about inequality reduction. In addition, policy-implementation assessments rely on documentary evidence rather than large-scale field interviews, which may under-represent informal or emergent practices.

To address these limitations, the author drew on a range of data sources and carefully cross-checked them against global standards, including those from the OECD (2024) and the World Bank (2021). Rather than trying to measure inequality reduction in strict numerical terms, the study focuses on tracing the

institutional mechanisms through which small and medium-sized enterprises (SMEs) help foster more inclusive economic growth.

TABLE 2 - Coded sample of 13 anonymised SMEs and SDG - linked indicators (Albania)

Code	Sector / Main Activity	Municipality	Years to 2025	SDG 9 Innovation / Quality Infrastructure	SDG 8/10 Inclusive-Growth Indicators
COS-01	Herbal & cosmetic production	Lushnja	6	Low-waste distillation; eco-packaging; process formalisation	Women-led enterprise; 100%local female employment; ~20 farmers
OIL-01	Olive-oil processing	Berat	2	Solar PV; nitrogen-sealed storage; GMP ≈95%; HACCP pre-certification	~260 farmers; Youth & women employed; seasonal formalisation
OIL-02	Olive-oil processing	Lushnja	7	Automation; GMP ≈92%; RE feasibility	~670 farmers Rural employment stability; supplier inclusion
DAIRY-01	Dairy processing	Lushnja	8	Energy audit; HACCP pre-certification; GMP ≈96%	~60 farmer contracts; women in production lines
OIL-03	Olive-oil processing	Belsh	7	5S & GMP ↑ (+23% to ≈92%); solar PV planning	~500 farmers; collective marketing
OIL-04	Olive-oil processing	Lushnja	3	Water-reuse plan; efficient lighting	~630 farmers; Gender-balanced management; youth jobs
AGRI-01	Fruit & vegetable export	Lushnja	8	Cold-chain modernisation; recyclable packaging	~500 farmers; formal supply contracts
TUR-01	Pickled vegetables	Lushnja	4	LED retrofit; wastewater design; HACCP pre-certification; 5S & GMP ≈93%	Women >60%; 1 international hire; ~260 farmers
OIL-05	Olive-oil processing	Lushnja	3	Solar PV planning; pomace valorisation (biofuel)	~250 farmers; youth seasonal employment
OIL-06	Olive-oil processing	Belsh	10	New equipment; 5S & GMP ≈90%	Women in leading roles; inter-village network ~400 farmers
TUR-02	Pickled vegetables	Lushnja	10	5S & GMP ≈94%; composting pilot	Women in mid-management; women >70%; ~300 farmers
OIL-07	Olive-oil processing	Lushnja	7	Solar plan; digital branding; 5S & GMP ≈95%	~250 farmers across three villages; youth jobs
OIL-08	Olive-oil processing	Berat	4	Solar PV; pomace reuse (biofuel/soil/cosmetics)	~450 farmers; youth seasonal engagement

Note. The data presented here is based on enterprise self-reports, which were verified through multiple site visits conducted between 2024 and 2025. Sector codes are used for classification as follows: COS (cosmetics), OIL (olive oil), DAIRY (dairy), AGRI (agriculture/export), and TUR (pickled vegetables).

Interpretive and Ethical Note

Alongside the national comparative overview in Table 1, Table 2 provides a coded qualitative sample, while Table 3 compiles the quantitative indicators. These indicators were self-reported by enterprises and then validated through a series of repeated site visits, at least 10 per business, and consultations carried out over a 6-month period. Each enterprise was visited multiple times across five methodological stages, allowing for iterative verification and longitudinal insights into progress.

The data in Table 2 is drawn from the programme's diagnostic and monitoring tools. All thirteen enterprises participated in donor-supported SME initiatives between 2023 and 2025. To protect confidentiality, company names are anonymous; therefore, each enterprise is coded (e.g., OIL-01, DAIRY-01, TUR-01). The specified years of operation up to 2025 are reported in this study to indicate the business maturity.

To operationalise SDGs 8, 9, and 10, one quantitative indicator of inclusion or innovation was selected for each enterprise (e.g., number of employees, proportion of female workforce, GMP compliance score, or number of contracted farmers). This approach enables cross-case comparison and strengthens the integration of qualitative and quantitative evidence. All identifiers remain anonymised, while information on location and year of establishment was obtained by the author directly from enterprise documentation and field observations.

Building on van Zanten and van Tulder (2021), this interpretive analysis employs a nexus approach to connect enterprise-level practices with wider SDG interdependencies. In parallel, assessing sustainability performance within circular business ecosystems requires the validation of multi-stakeholder (Kanda et al., 2021) . Such insight directly informs the triangulated verification procedures employed in this study.

Ethical and Transparency Considerations

The author serves as a national consultant within the programme Business Partnerships and Solutions for Sustainable Development Goals (2023–2027), funded by the Government of Sweden and implemented by UNDP in partnership with FAO, ILO, and UNIDO. This professional engagement provided structured access to primary data and opportunities for longitudinal observation of enterprise practices.

The interpretations offered in this study are anchored in a triangulated evidence base that integrates national and regional policy documents, official SME performance metrics and independently validated enterprises data. The analysis follows established principles of qualitative transparency and critical reflection, drawing on the methodological guidance of Baxter and Jack (2008), Chevalier and Buckles (2019), Stake (1995), and Yin (2018). As such, the findings reflect systematic observation and inquiry, rather than programme evaluation or advocacy

To safeguard confidentiality and uphold international ethical standards for applied research, all thirteen enterprise identifiers are anonymised. Locations and establishment years are sourced directly from verified documentation and field visits validation. This participatory approach not only ensures the authenticity of the data but also reinforces stakeholder ownership throughout the research process.

Building on the work of Montiel et al. (2021), who highlight the importance of reflexivity in balancing business performance with sustainable development goals (SDGs), the researcher recognises a similar dual position, both as a practitioner engaged in implementation and as an observer analysing its dynamics .

The study enables a reflexive stance , which supports the researcher to separate the practical demands of implementation from the analytical perspective used to interpret them. Drawing on Sharifi et al. (2024), the study considers how the interplay of co-benefits and trade-offs across SDGs 8, 9, and 10 contributes to shaping its ethical framing. These dynamics provide a foundation for critically assessing the tensions between inclusivity and competitiveness observed across the cases.

TABLE 3 - Quantitative indicators of inclusive and sustainable SME performance (Aligned with SDG 8, 9 and 10)

Indicator Category	Quantitative Metric (Average / Aggregate across 13 SMEs)	SDG Link	Interpretive Insight
Training intensity	18 hours of structured training per enterprise	SDG 8 Decent work & capacity development	Skills upgrading underpins formalisation and productivity.
Technical assistance	≈ 183 hours of personalised advisory support per enterprise	SDG 9 Innovation systems support	Sustained mentorship accelerates adoption of standards and technology.
Average employment	9 workers per SME (≈ 45 % women)	SDG 8 & 10 Inclusive employment	Gender participation improving; managerial roles rising in food sector.
Farmers / suppliers linked	≈ 3,000 farmers in total (≈ 230 per SME)	SDG 10 Rural inclusion	Enterprises consolidate rural value chains and local livelihoods.

Average profit margin	≈ 38 % (self-reported)	SDG 8 Economic growth	Profitability sustains job creation and regional stability.
Counterpart investment	≈ 2 000 000 ALL per enterprise	SDG 9 Infrastructure & process upgrading	Co-financing reflects commitment to long-term innovation.
GMP / 5S / HACCP compliance	90-96 % post-training average	SDG 9 Quality infrastructure	Standardisation raises quality and export potential.
Renewable energy/ efficiency measures	8 of 13 SMEs (≈ 62 %) installed solar PV or efficiency systems	SDG 9 Sustainable industrialisation	Transition toward cleaner production is accelerating.
Digital platform use	100 % SMEs online (avg. 4 platforms)	SDG 9 Digital innovation / market access	Digitalisation broadens market reach and visibility.
Credit access	46 % SMEs applied for or hold active loans	SDG 8 & 10 Financial inclusion	Finance access remains limited

Note. The data presented in this study are based on thirteen enterprises self-reports and on-site validation conducted by the author between 2024 and 2025. All indicators correspond to the thirteen anonymised SMEs listed in Table 1. Training and technical assistance hours were verified through programme records, while financial and operational figures reflect averages have derived from structured company interviews during the 6 months period. SDG 8 pertains to employment and decent working conditions; SDG 9 addresses innovation, energy, and digital infrastructure; and SDG 10 focuses on inclusion through gender equality and rural supply-chain participation.

The next section explores the observed cross-sectoral patterns across the participating enterprises. There is a particular emphasis on the intersection of inclusive employment practices, gender participation, and sustainability performance within Albania's SME ecosystem.

Findings and Discussion

Overview of the Dataset

This study focuses on thirteen SMEs, mainly operating within the agro-processing sector. In accordance with the confidentiality protocol outlined in Section 3, the identities of participating firms are anonymised, while key descriptive attributes are retained to support analytical rigour (see Table 1). Quantitative data are drawn from an indicator dataset developed through donor-supported SME programmes and reinforced by the author's longitudinal fieldwork, which included at least ten site visits, interviews and direct observations with each enterprise over a six-month period (Stake, 1995; Yin, 2018; Chevalier & Buckles, 2019).

Ownership and maturity: In 92 % of cases, the respondent is the legal representative or owner of the business, reflecting the owner-manager structure typical of Albanian family SMEs. Business age is skewed toward established firms: 38 % have operated for 10 - 15 years, 23 % for 15 + years, and 30 % are younger than five years. This maturity profile supports assessing SDG progress through organisational upgrading rather than start-up dynamics.

Sectoral composition: The participating firms are anchored in agri-food value chains, with olive-oil processing representing the majority (54%), followed by food processing (15%) and dairy production (8%). This sectoral spread provides a basis for cross-case comparison on SDG 8 (Decent Work and Economic Growth), SDG 9 (Industry, Innovation and Infrastructure), and SDG 10 (Reduced Inequalities).

Demographics of enterprise leaders: Among the participating enterprises, 77% are male-owned and 23% female-owned. Educational background is relatively high, with 46% of respondents having completed secondary education and 38% holding university-level qualifications. All respondents serve as primary household breadwinners, collectively supporting 34 dependents. These figures underline the household-level welfare significance of SME upgrading in rural municipalities, as an important link to SDG 10.

Human-capital formation and technical support: The donor-supported initiative delivered substantial capability building: enterprises averaged 18 hours of structured training and 183 hours of one-to-one technical assistance (totals 230 and 2,382 hours, respectively). Such alignment reflects the programme's theory of change, which centres skills, systems, and standards. Furthermore, it complements the study's mixed-methods design, which triangulates documentary records with direct observation (Creswell & Plano Clark, 2018; Baxter & Jack, 2008).

Link to the SDGs and to subsequent analysis: The dataset strengthens the empirical basis for evaluating progress under the three focal goals. SDG 8 is operationalised through employment, training, and formalisation; SDG 9 through adoption of GMP/5S/HACCP and investment in equipment or renewable energy; and SDG 10 through inclusion of smallholder farmers and gender participation. Sections 4.2 - 4.4 interpret these indicators thematically, and Table 2 consolidates the principal quantitative measures to support cross-case comparisons.

SDG 8: Decent Work and Economic Growth

National and regional policy assessments identify capability formation, including quality systems, managerial routines, and workforce skills, as a vital foundation for promoting decent work within Albania's SME sector (European Commission, 2024; OECD, 2024).

According to official indicators, SMEs are firmly positioned as the backbone of employment and value creation in the national economy (INSTAT, 2025).

Within this policy context, the thirteen SMEs analysed exhibit consistent patterns of skills enhancement and system formalisation. Field evidence shows that each enterprise received, an average of 18 hours of structured training and 183 hours of targeted technical assistance. These interventions primarily focused on GMP and 5S practices, financial record-keeping, and market system development. This integrated model which combines formal instruction with on-site support, serves as a micro-level mechanism through which decent work conditions take shape, fostering cleaner, safer, and more predictable workplaces grounded in structured management systems (Creswell & Plano Clark, 2018; Stake, 1995; Yin, 2018).

Examples (coded). Olive-oil processors OIL-02 and OIL-06 document full factory clean-ups and GMP/5S adoption; TUR-02 introduced HACCP formats and regularised inventory systems; OIL-04 and OIL-07 implemented signage, sanitation protocols, and standard operating procedures along with HACCAP. These field-validated improvements demonstrate that capability building has translated into daily practice (Chevalier & Buckles, 2019).

At the macro level, employment quality and inclusivity remain policy priorities (INSTAT, 2025; OECD, 2024). In this sample, employment structures are sector-specific: pickling firms (TUR-02, TUR-01) have female-majority teams, while several olive-oil firms (OIL-02, OIL-04, OIL-06, OIL-07) remain male-dominated but have formalised seasonal work and introduced OSH/GMP routines. All enterprise heads are household breadwinners, linking enterprise performance to family welfare an element of SDG 8.5 (productive employment) and SDG 10.2 (social inclusion).

The evidences report that regular training and skill-building have played a key role in keeping productivity up and making sure workers stay committed. The practices of family-based and intergenerational participation in many enterprises, with several household members contributing across production, packaging, administration, and sales, reveal to be equally important for the business. Together, these patterns strengthen local employment resilience and ease the pressure of outward migration..

Overall, such shifts indicate that progress toward SDG 8.5 is not limited to job creation but extends to qualitative improvements in stability, safety, and learning capacity within micro and small enterprises core attributes of inclusive and sustainable employment systems.

The The evidences show widespread adoption of GMP and 5S practices across the enterprises, backed by before-and-after documentation. In several cases like OIL-02 and OIL-06, final evaluations recorded a strong GMP compliance and HACCP pre-certification, aligning with SDG 9 indicators listed in Table 2. TUR-02 showed significant improvements across GMP sub-categories, while TUR-01 and OIL-07 demonstrated steady GMP scores and reorganised production areas.

These aren't just surface-level upgrades, according to the evidence gathered they've led to real gains in safety, order, and traceability, helping reduce rework and

downtime. All observations were carried out on-site, adding depth and reliability to the findings (Baxter & Jack, 2008).

Policy frameworks highlight that investment in standards, digitalisation, and equipment remains essential for enhancing productivity and improving job quality (European Commission, 2024; OECD, 2024). Field evidence supports this link: the SMEs studied reported an average co-investment of around 2 million ALL per firm, mainly directed toward equipment upgrades, improved packaging, and digital process enhancements. For example, OIL-01 and OIL-05 focused on energy-efficient machinery and modernising their operations, while TUR-02 invested in export-ready equipment. OIL-03 took a different route, prioritising collective marketing efforts and tools to boost visibility.

These targeted investments point to a steady shift toward more formal, safer, and higher-value employment structures closely aligned with SDG 8.2 (productivity growth) and SDG 8.3 (enterprise upgrading). Beyond acquiring new equipment or tools, many enterprises also reported meaningful improvements in how efficiently they operate, how well they track production, and the overall quality of their products, clear signs that the benefits of these upgrades extend well beyond the physical assets themselves.

Across the cases, a consistent trend was evident: profits were routinely reinvested into upgrading technology and improving workspaces. Rather than isolated spending, this reflects a shift toward a culture of ongoing improvement. National statistics and long-term field observations provide early signs of rising productivity, suggesting that these firm-level practices are beginning to align with broader national ambitions for competitiveness

Synthesis for SDG 8 (triangulated)

Together, these strands provide credible, triangulated evidence of progress toward SDG 8 targets 8.2, 8.3, and 8.5, with strongest support on workplace organisation, capability building, and early formalisation (Baxter & Jack, 2008; Stake, 1995; Yin, 2018).

- National/regional policy and official indicators (INSTAT, 2025; European Commission, 2024; OECD, 2024) emphasise SME upgrading for better jobs and productivity.
- Official SME statistics confirm SMEs' weight in employment and value added, framing the macro relevance of decent-work reforms.
- Field evidence from the 13 SMEs shows the mechanisms by which SDG 8 advances: skills formation, GMP/5S/HACCP standardisation, digital investment, and steps toward formalisation verified through longitudinal observation.

SDG 9: Industry, Innovation and Infrastructure

Technological modernisation and innovation identifies as central pillars of national and regional competitiveness strategies (European Commission, 2024; OECD, 2024). Recent SME data confirm for this study a steady uptake of new technologies across the sector, signalling early progress toward these policy goals (INSTAT, 2025).

Evidence from the 13 SMEs shows tangible progress: enterprises introduced new machinery, digital tools, and energy-efficient systems, improving productivity and quality. The average counterpart investment exceeded 2 million ALL, mainly for machinery, renewable energy installations, packaging automation, and digital infrastructure.

Coded examples. OIL-02 and OIL-06 installed solar panels and upgraded bottling lines; TUR-02 adopted semi-automated filling equipment and HACCP systems; OIL-05 and OIL-07 added energy-efficient lighting and temperature-control tanks; COS-01 developed eco-packaging and low-waste distillation.

These advances align with SDG 9 targets 9.4 and 9.5, as well as with the NSDEI 2021-2030, which identifies SME innovation as a driver of competitiveness (Government of Albania, 2021).

According to OECD (2024) the digital transformation continues to pose a significant challenge for Albania's SMEs. Several structural barriers hinder the progress across many firms. While ICT is identified in national strategies as a key driver of competitiveness, adoption is still uneven, especially among smaller enterprises and those operating beyond Tirana. National benchmarks confirm that progress in ICT uptake is moderate but steadily improving (International Telecommunication Union, 2024; WIPO, 2025).

All thirteen enterprises in this study maintain an active digital presence, using an average of 4 platforms, including Facebook, Instagram, Google Business, email, and B2B sites. Firms including OIL-01, OIL-03, and TUR-02 have expanded their outreach through ExportAlbania, Europages, and regional B2B portals, improving visibility and transparency in line with SDG 9.c on ICT access. However, these external forms of digitalisation represent only a partial transition, as they tend to focus on marketing and client communication rather than full digital integration.

Field observations show that internal digitalisation, covering production coordination, financial record-keeping, inventory management, and traceability systems, remains at an early stage. Many SMEs still coordinate tasks manually or by phone, limiting efficiency, weakening data reliability, and making supply-chain integration more difficult. Where digital tools are in place, they generally support minor, incremental improvements such as basic accounting software, online order forms, or cloud-based logistics. Such reflects a slow and uneven diffusion of digital practices across the sector.

In this context, digital transformation is emerging as a central driver of SME competitiveness. It directly contributes to progress under SDG 9.4, which focuses on technological upgrading and innovation, and SDG 8.2, which promotes productivity growth through technology use..

The evidence gathered from multiple sources shows that GMP, 5S, and HACCP standards are now widely applied, with compliance rates of 92 to 96 per cent. Such trend reflects stronger alignment between national food safety rules and the support provided by donor programmes. The documented cases (OIL-02, OIL-04, OIL-06, TUR-01, and TUR-02) exemplify measurable advancements, substantiated through verification checklists and photographic records.

Such systematisation advances SDG 9.1 (infrastructure) and SDG 9.5 (technological capacity). Enhanced record-keeping and traceability facilitate export readiness, linking innovation to inclusive participation.

TABLE 4 - Triangulated evidence for SDG 9 - Industry, Innovation and Infrastructure

Analytical Source	Evidence Type	Key Implication for SDG 9
(1) National/ regional policies	NSDEI 2021-2030 and EC 2024 Report highlight SME innovation and sustainable infrastructure as EU-accession priorities.	Policy commitment to industrial upgrading.
(2) Official SME indicators	INSTAT (2025) shows investment intensity rising in processing industries but limited digital adoption.	Macroevidence of narrowing technology gaps.
(3) Empirical data from 13 SMEs	≈ 2 million ALL investment; 92-96 % GMP/5S/ HACCP compliance; 100 % digital presence.	Demonstrates operational innovation and stronger quality infrastructure.

When synthesised across these layers of evidence, the results confirm progress toward SDG 9 targets 9.1, 9.4, and 9.c. Enterprise-level innovation seen in the field reflects national policy trends and signals a sustainable path toward industrial upgrading and inclusive growth. These developments mirror broader international efforts to strengthen quality-infrastructure systems for SMEs (UNIDO, 2023c; UNIDO, 2024).

SDG 10: Reduced inequalities

Tackling inequality in Albania requires more balanced regional development and stronger rural participation as well. Policy frameworks like the NSDEI 2021–2030 highlight the importance of territorial cohesion and inclusive growth (Government of Albania, 2021). Yet national data show that rural municipalities continue to lag behind urban areas in funding, services, and infrastructure (INSTAT, 2025; OECD, 2024)

Field evidence demonstrates tangible inclusion at the local level: approximately 3,000 farmers are linked to SME supply chains mainly through olive-oil processors (OIL-02, OIL-03, OIL-04, OIL-06, OIL-07) and food processors (TUR-02, TUR-

01). These relationships give farmers reliable routes to markets for their products, along with clear pricing and regular feedback on quality, supporting them maintain a steady income. Many of these farmers come from peripheral villages like Ballagat, Dushk, Hysgjokaj, Fiershegan, Gradishte, and Krutje, showing how enterprise upgrading can support more diverse income sources across rural micro-regions.

Nevertheless, the shared awareness observed among the participant businesses, suggests a shared sense that collaboration could grow over time. This approach takes into account the key factors that institutional frameworks rely on to ensure transparency and autonomy (Chevalier & Buckles, 2019).

Importantly, the connections between SMEs and farmers have also led to new jobs in areas like seasonal work and transport services, especially around collection, packaging, and logistics. These spillover effects suggest that rural inclusion goes beyond farming itself, reaching into related economic activities and helping to build local resilience.

Taken together, these dynamics show how upgrading at the enterprise level can generate broader community benefits, creating related jobs and reinforcing local value chains. These connections help build social cohesion in rural areas and raise the profile of local products in national and regional markets. Over time, these linkages can deepen territorial integration, helping rural municipalities capture more of the value generated along the supply chain.

This integrated ecosystem supports SDG 10.2, empowerment and inclusion regardless of geography, and grounds the micro-level evidence within broader policy commitments to rural competitiveness and cohesion (European Commission, 2024). By linking production, employment, and identity, SMEs serve as territorial stabilisers, connecting urban markets with rural livelihoods.

While gender inequality remains a structural issue in Albania (OECD, 2024), there are signs of progress. In the participating businesses of this study, it is identified that in the food and pickling sectors (TUR-02, TUR-01), women make up more than half of the workforce. In olive oil processing (OIL-05, OIL-06), they play central roles in quality control and packaging. Across all firms, women increasingly occupy administrative, marketing, and sales positions, reflecting gradual gender mainstreaming in non-traditional business domains.

All enterprise leaders are primary household earners, collectively supporting 34 dependents and at least 60 family members, mainly parents aged 70 or older. Income generated through SMEs often extends beyond the business itself. The income generated by these enterprises extends beyond the business itself. It supports household finances, sustains local spending among farmers and community members, and contributes to financial stability across generations. This link between enterprise earnings and everyday livelihoods also highlights the vital role of women's leadership in safeguarding economic security and strengthening community resilience.

These trends point directly to the goals of SDG 10.1, which focuses on raising incomes for the bottom 40 percent, and align with the gender-equality priorities set out in the European Commission's 2024 reform agenda. In this context, women-led and family-run SMEs stand out as important drivers of inclusive, locally rooted development.

Economic growth alone is not enough to reduce inequality; fair access to finance and markets matters as much. National data show that credit remains scarce outside Tirana (INSTAT, 2025), and both the Bank of Albania (2025) and the World Bank (2025) report similar difficulties, especially for smaller firms.

Among the thirteen SMEs surveyed, almost half (46 per cent) had applied for or received credit, mostly from domestic banks. At the same time, the rest lacked access to any dedicated financial instruments or support mechanisms for business growth. Many rely instead on high-interest commercial loans, informal borrowing from acquaintances, or direct reinvestment of earnings to sustain operations.

None of the businesses in the sample had applied for subsidy or grant schemes from the Ministry of Agriculture. Even so, several factors help these firms stay competitive. Most have developed a strong digital presence, using an average of four online platforms social media, websites, or B2B marketplaces to reach customers directly and reduce reliance on intermediaries. Local and regional value-chain relationships also provide stability, with informal, trust-based exchanges ensuring liquidity and continuity even where formal finance is lacking.

Many albanian businesses have benefited from donor grant programmes or national support schemes run by the Ministry of Agriculture, AZHBR, and AIDA. Through these initiatives, they have improved their branding, strengthened management practices, and become more prepared for export. At the same time, ongoing improvements in infrastructure, better roads, easier VAT procedures, and faster logistics are helping them reach both domestic and regional markets more easily.

On average, these enterprises invested about two million ALL of their own funds. The figure says a lot; it shows caution in taking on financial risk but also growing confidence in their own capacity to invest. In practice, this mix of self-financing, digital reach, and community trust fills the gap left by limited institutional credit. It is precisely this blend of independence and connectivity that supports progress toward SDG 10.c, which calls for wider financial and information access for smaller and underserved businesses.

According to Chevalier & Buckles (2019), participation in associations or cooperatives can strengthen bargaining power and encourage shared learning for the business. In practice, however, none of the enterprises examined are currently, or have ever been members or founders of sectoral associations. Studies show that these kinds of networks support SMEs exchange market insights, access training opportunities, and engage in collective advocacy, which in turn helps reduce long-standing gaps in information and representation.

Triangulated synthesis

TABLE 5 - Triangulated evidence for SDG 10 - reduced inequalities

Analytical Source	Empirical Evidence	Implication for SDG 10
(1) National/regional policy documents	NSDEI 2021-2030 and EC (2024) emphasise inclusive regional development and gender equality.	Policy framework for equitable growth.
(2) Official SME indicators	INSTAT (2025) highlights urban-rural and gender employment disparities.	Structural inequality persists nationally.
(3) Data from 13 SMEs (this study)	≈ 3,000 farmers engaged; 45 % female employment; 46 % credit access; 100 % digital presence.	Evidence of narrowing geographic, gender, and market gaps.

Taken together, these findings show measurable progress toward SDG 10 targets: 10.1, 10.2, and 10.c. Through their everyday activity, SMEs help generate income in peripheral regions, create more opportunities for women to participate in the workforce, and extend access to finance and digital tools. The combined evidence from policy documents, statistical indicators, and field data suggests that inequality in Albania's SME sector is being reduced mainly through practical, enterprise-level action rather than macroeconomic policy alone.

Cross-SDG Synthesis

Evidence from the thirteen enterprises shows that decent work, innovation, and inclusion are mutually reinforcing. Improvements in workplace organisation (SDG 8), the adoption of new technologies and standards (SDG 9), and the participation of women and rural suppliers (SDG 10) combine to generate cumulative social and territorial benefits that macro indicators often understate.

Capacity building appears as the common thread linking all three goals. Training and technical support have helped create safer, better-paid jobs while enabling firms to professionalise their operations and enter new markets. Standardisation (GMP/5S/HACCP) encouraged investment in renewable energy, packaging automation, and digital marketing, which in turn expanded local employment and small-farmer inclusion, especially in olive-oil and food-processing clusters. In this sense, process upgrading became a channel for distributing value more evenly across places and groups.

Innovation also functions as a social equaliser. Digitalisation reduces information asymmetries that have historically disadvantaged rural producers and women-led micro-enterprises, while quality systems improve discipline, safety, and hygiene, enhancing worker dignity and professionalism.

Official data show that SMEs continue to form the backbone of employment in Albania. What happens at the enterprise level reflects how national policy goals are gradually turning into daily business realities. The cases in this study capture small but telling pieces of a larger economic shift, one that is moving toward greater structure and fairness. Progress in one part of the SDG agenda often spills over into the others, linking social, economic, and institutional change in practice.

The results underscore the importance of viewing SDG 8, SDG 9, and SDG 10 as an integrated policy triad rather than stand-alone targets. Enterprise-level interventions that combine training, technology, and territorial inclusion deliver the most balanced outcomes. Transition to Policy Section. These interconnected dynamics form the empirical basis for the recommendations in Section 5, which consider how national and donor strategies can sustain and scale the inclusive-innovation pathways already visible in these SMEs

Policy Implications and Recommendations

Aligning enterprise support with the SDG triad

The findings show that progress in decent work, innovation, and equality does not come from isolated interventions. It happens when these dimensions are connected and move forward within the same enterprise ecosystem. Policy frameworks should therefore focus on multi-dimensional upgrading, where skills, technology, and inclusion develop together rather than in parallel.

At the national level, the NSDEI 2021 - 2030 already sets these priorities, but implementation still occurs in silos across ministries and donor programmes.

Stronger coordination among the Ministry of Finance and Economy, the Ministry of Agriculture, central and regional development agencies, and local business associations would help align SME support around shared SDG outcomes rather than separate project agendas.

To make this alignment work in practice, Albania's SME programmes could use integrated performance indicators that link productivity and job quality with gender participation, rural sourcing, and environmental innovation. This approach would bring monitoring systems closer to the targets of SDGs 8, 9, and 10 and make reporting across donor platforms more evidence-based and comparable.

Strengthening institutional capacity for innovation and quality infrastructure

Evidence from the thirteen SMEs echoes earlier observations by the OECD (2019) and the World Bank (2022). What really drives innovation, they show, are the things that make businesses stronger over time as quality infrastructure, credible

certification systems, access to technical training, and hands-on digital advice. Policy cannot depend on short, one-off projects. What is needed instead is steady institution-building that keeps these efforts running over time. This direction already appears in national strategies shaping Albania's business ecosystem (Council of Ministers, 2021; Ministry of Economy, Culture and Innovation, 2025).

A practical measure is the creation of regional "innovation and standards hubs" within vocational or university networks. These hubs could deliver applied training in GMP/5S/HACCP, as well as in digital commerce and renewable-energy integration, for SMEs outside Tirana. Such facilities would institutionalise knowledge now transferred through donor projects, ensuring continuity and reducing dependency.

Parallel collaboration with the banking sector is equally essential. Nearly half of SMEs still rely on self-financing or informal credit. Domestic banks could play a stronger role by developing green and inclusive lending products, such as loans for energy-efficient upgrades or for firms that create gender-balanced employment. To make such products viable, international partners could provide risk-sharing mechanisms consistent with EU sustainable finance standards.

Advancing social and territorial inclusion

Reducing inequality demands persistent attention to territorial cohesion and labour-market inclusion. The SME cases show that localised investment in quality and innovation generates employment in peripheral municipalities such as Ballagat, Hysgjokaj, and Dushk. Future SME-grant schemes should embed place-based criteria, prioritising enterprises operating in rural or economically lagging areas and demonstrating measurable social impact, particularly women's employment and farmer participation.

Expanding digital infrastructure and literacy in rural areas is also vital. Although every firm now maintains a digital presence, limited broadband access and skills gaps limit the benefits of e-commerce. Public-private partnerships for rural broadband and targeted digital-training vouchers could extend the inclusive benefits of innovation to smaller producers.

Integrating participatory monitoring and evaluation

Regular feedback between local enterprises, municipalities, and development partners could turn lessons from individual projects into broader, long-term reforms. The value of participatory learning for adaptive governance is echoed in recent UNDP and World Bank programme evaluations (UNDP, 2024; World Bank, 2023).

Summary of policy directions

TABLE 6 - Summary of policy directions and expected SDG outcomes for Albanian SMEs

Focus Area	Strategic Action	Expected Outcome (Aligned SDG)
Integrated SME policy	Merge training, innovation, and inclusion targets under one coordination framework	Balanced progress on SDG 8, SDG 9, and SDG 10
Institutional infrastructure	Establish regional standards and innovation hubs	Sustainable industrial upgrading (SDG 9)
Inclusive finance	Develop green and gender-responsive credit lines	Broader access to finance (SDG 8 & 10)
Territorial equity	Prioritise rural and female-led enterprises in grant schemes	Reduced regional and gender disparities (SDG 10)
Participatory monitoring	Formalise SME policy feedback loops	Evidence-based policy learning (SDG 8 Decent work governance)

Conclusion

This study examined how Albania's SMEs contribute to Agenda 2030 and specifically to SDG 8 (Decent Work and Economic Growth), SDG 9 (Industry, Innovation and Infrastructure), and SDG 10 (Reduced Inequalities). Using a triangulated approach that combines national/regional policy analysis, official SME indicators, and longitudinal evidence from 13 enterprises, the research offers an integrated perspective on inclusive industrial development.

The results show that enterprise upgrading is a cumulative interaction among human capability, technological modernisation, and social inclusion. Training and technical assistance improved management and workplace organisation; investments in machinery and renewable energy fostered innovation; and expanded supplier networks and gender participation enhanced social equity. Progress in one SDG dimension reinforces progress in the others, creating a virtuous cycle in which decent work sustains innovation and innovation broadens inclusion.

Methodologically, this paper draws on a participatory, multi-case research design that fits well within the field of economic development. Working directly with enterprises made it possible to observe how behaviour and organisation evolve in practice, details that rarely surface in secondary data. This triangulated evidence underscores how micro-level enterprise behaviour translates the intentions of national SDG frameworks into practical outcomes. This approach shows why combining qualitative insights with data-driven frameworks adds real

analytical depth. Numbers alone cannot explain how change unfolds; context and lived experience give them meaning.

At the policy level, the findings suggest that inclusive industrialisation depends on integrating human capital, innovation systems, and social equity tools into a single SME strategy while bridging the remaining policy implementation gap between national strategy and enterprise reality. When capacity building, technology, and territorial inclusion advance simultaneously, even small firms in emerging economies can become real agents of sustainable growth.

Future studies should follow these processes over time, tracking productivity, wage shifts, and environmental performance, to understand how the dynamics evolve once project support ends.

The thirteen SMEs analysed here offer a glimpse of a new development logic taking shape in Albania. Competitiveness, sustainability, and equity no longer appear as separate goals but as connected parts of the same transformation. The Albanian case, therefore, offers lessons for other transition economies seeking to combine SME growth with social inclusion within the SDG framework.

These findings from Albania provide a transferable reference for other transition economies aiming to integrate SME competitiveness with social inclusion under the SDG framework.

References

AIDA (Albanian Investment Development Agency). (2025). *ICT & BPO sector fact sheet 2025*. AIDA. Retrieved from https://aida.gov.al

Bank of Albania. (2024). *Financial stability report, H1 2024*. Bank of Albania. Retrieved from https://www.bankofalbania.org

Bank of Albania. (2025, July). *Bank lending survey, Q2 2025.* Bank of Albania. Retrieved from https://www.bankofalbania.org

Baxter, P., & Jack, S. (2008). Qualitative case study methodology: Study design and implementation for novice researchers. The Qualitative Report, 13(4), 544–559.

Beck, T., & Demirgüç-Kunt, A. (2006). Small and medium-sized enterprises: Access to finance as a growth constraint. *Journal of Banking & Finance*, 30(11), 2931 2943. https://doi.org/10.1016/j.jbankfin.2006.05.009

Brammer, S., Branicki, L., & Linnenluecke, M. (2022). *The economic impact of small and medium-sized enterprises: Global perspectives on sustainability and growth.* Springer Nature. *https://doi.org/10.1007/978-3-030-93288-9*

Chevalier, J. M., & Buckles, D. J. (2019). *Participatory action research: Theory and methods for engaged inquiry*. Routledge.

Council of Ministers (Republic of Albania). (2021). *Decision No. 466, dated 30 July 2021, on the Business and Investment Development Strategy (BIDS) 2021-2027. Council of Ministers.* Retrieved from https://kryeministria.al

Creswell, J. W., & Plano Clark, V. L. (2018). *Designing and conducting mixed methods research (3rd ed.). SAGE Publications.*

EBRD/EU. (2025, April). *Western Balkans SME digitalisation programme announcement. European Bank for Reconstruction and Development & European Union.*
European Commission. (2019). *Albania 2019 SBA fact sheet*. European Commission. Retrieved from https://enlargement.ec.europa.eu/system/files/2019-11/sba-fs-2019_albania.pdf
European Commission. (2021). *Albania SME fact sheet 2021*. European Commission. Retrieved from https://enlargement.ec.europa.eu/system/files/2021-09/albania_-_sme_fact_sheet_2021.pdf
European Commission. (2024, October 30). *Albania 2024 report (Enlargement Package). European Commission. Retrieved from* https://neighbourhood-enlargement.ec.europa.eu
Ferreira, J. J. M., & Teixeira, A. A. C. (2023). The role of entrepreneurial ecosystems in SME growth: A dynamic model. *Journal of Small Business and Enterprise Development, 30*(2), 245 262. https://doi.org/10.1108/JSBED-01-2022-0009
Georgescu, A. (2022). A business ecosystem framework for SME development: SMEs in the context of digitalisation and associativity. *Management & Marketing: Challenges for the Knowledge Society, 17*(1), 1 16. https://doi.org/10.2478/mmcks-2022-0001
Government of Albania. (2021). *National Strategy for Development and European Integration 2021 2030*. Council of Ministers.
Institute of Statistics (INSTAT). (2020). *Structural business statistics, 2019*. INSTAT.
Institute of Statistics (INSTAT). (2025, March 13). *Statistics on small and medium enterprises, 2023*. INSTAT. Retrieved from https://www.instat.gov.al/media/15006/results-on-sme-2023.pdf
International Labour Organisation (ILO). (2019). *Small matters: Global evidence on the contribution to employment by the self-employed, micro-enterprises and SMEs*. ILO. Retrieved from https://www.ilo.org
International Telecommunication Union. (2024). *Digital innovation profile Albania*. ITU. Retrieved from https://www.itu.int
International Telecommunication Union. (2024). *Measuring digital development: Facts and figures 2024*. ITU. Retrieved from https://www.itu.int
Joint Research Centre. (2024). *Smart specialisation in the Western Balkans and Türkiye: Lessons learned*. Publications Office of the European Union. Retrieved from https://publications.jrc.ec.europa.eu
Kanda, W., Geissdoerfer, M., & Hjelm, O. (2021). From circular business models to circular business ecosystems. *Business Strategy and the Environment*, 30, Article 6. https://doi.org/10.1002/bse.2895
Kruja, A. D. (2013). The contribution of SMEs to economic growth: The case of Albania. *European Journal of Business and Management, 5*(16), 30 42. Retrieved from https://ideas.repec.org/a/bra/journl/v3y2012i3p30-42.html
Mayring, P. (2014). *Qualitative content analysis: Theoretical foundation, basic procedures and software solution*. Social Science Open Access Repository.
Ministry of Agriculture and Rural Development (MARD). (2021). *Olives and olive oil sector study report*. MARD. Retrieved from https://bujqesia.gov.al
Ministry of Agriculture and Rural Development (MARD). (2022). *Strategjia e Bujqësisë, Zhvillimit Rural dhe Peshkimit 2021-2027* [Strategy for Agriculture, Rural Development and Fisheries 2021- 2027]. MARD. Retrieved from https://bujqesia.gov.al
Ministry of Economy, Culture and Innovation (Albania). (2025). *National Strategy for Smart Specialisation (S3), 2025- 2030*. Government of Albania. Retrieved from https://s3albania.org

Montiel, I., Husted, B. W., & Christmann, P. (2021). Implementing the United Nations' Sustainable Development Goals in international business. *Journal of International Business Studies,* 52(8), 1238–1261. https://doi.org/10.1057/s41267-021-00445-y

Myslimi, G., & Kaçani, K. (2016). Impact of SMEs on economic growth in Albania. *European Journal of Sustainable Development, 5*(3), 177- 186. https://doi.org/10.14207/ejsd.2016.v5n3p177

OECD. (2018). *Opportunities for all: The OECD framework for policy action on inclusive growth*. OECD Publishing. https://doi.org/10.1787/9789264301665-en

OECD. (2019). *Strengthening SMEs and entrepreneurship for productivity and inclusive growth*. OECD Publishing. https://doi.org/10.1787/18151949

OECD. (2022). *SME policy index: Western Balkans and Turkey 2022 Assessing the implementation of the Small Business Act for Europe*. OECD Publishing. Retrieved from https://www.oecd.org/publications

OECD. (2024a). *A roadmap towards Albania's circular economy*. OECD Publishing. Retrieved from https://www.oecd.org/publications

OECD. (2024b). *Western Balkans competitiveness outlook 2024: Albania*. OECD Publishing. Retrieved from https://www.oecd.org/publications

OECD. (2025). *Economic convergence scoreboard for the Western Balkans 2025*. OECD Publishing. Retrieved from https://www.oecd.org/publications

Pedersen, C. S. (2018). The UN Sustainable Development Goals (SDGs) are a great business gift! *Procedia CIRP, 69*, 21 24. https://doi.org/10.1016/j.procir.2018.01.003

Ratten, V., & Dana, L. P. (Eds.). (2022). *Sustainable business ecosystems and social perspectives*. IGI Global. https://doi.org/10.4018/978-1-7998-8811-2

Regional Cooperation Council. (2024). *Balkan Barometer 2024: Business opinion survey*. RCC. https://www.rcc.int

Sachs, J. D. (2015). *The age of sustainable development*. Columbia University Press.

Schramade, W. (2017). Investing in the UN Sustainable Development Goals: Opportunities for companies and investors. *Journal of Applied Corporate Finance, 29*(2), 10 17. https://doi.org/10.1111/jacf.12236

Sinanaj (Abazi), X., & Krypa (Tapija), N. (2023). *Sustainable Development Goals in Albania: Targets and Progress. Review of Economics and Finance*, 21, 2842- 2846. Retrieved from https://refpress.org/wp-content/uploads/2024/03/Sinanaj_REF.pdf

Sharifi, A., Allam, Z., & others. (2024). Smart cities and sustainable development goals (SDGs): A systematic literature review of co-benefits and trade-offs. *Cities,* 140, 104467. https://doi.org/10.1016/j.cities.2024.104467

Stake, R. E. (1995). *The art of case study research*. SAGE Publications.

UN Albania. (2021). *Government of Albania United Nations sustainable development cooperation framework (UNSDCF) 2022 2026*. United Nations in Albania. Retrieved from https://albania.un.org

UNDP (United Nations Development Programme). (2022). *Review of VET governance and provision in Albania (2019- 2020)*. UNDP Albania. Retrieved from https://www.undp.org/albania

UNDP (United Nations Development Programme). (2024). *Stocktaking report: Qualitative assessment of SDG principles and positive practices adopted by actors in Albania's agro-processing sector*. UNDP Albania. Retrieved from https://www.undp.org/albania

UN ESCAP (United Nations Economic and Social Commission for Asia and the Pacific). (2022). *Guidelines for integrating the SDGs into national development planning*. UN ESCAP. Retrieved fromhttps://www.unescap.org

UNIDO (United Nations Industrial Development Organisation). (2020-2024). *Country programme for Albania 2020 2024*. UNIDO. Retrieved from https://www.unido.org

UNIDO (United Nations Industrial Development Organisation). (2023a). *GQSP Albania: Fruits and vegetables value chain study*. UNIDO. Retrieved from https://www.unido.org

UNIDO (United Nations Industrial Development Organisation). (2023b). *GQSP Albania: Medicinal and aromatic plants value chain study*. UNIDO. Retrieved from https://www.unido.org

United Nations. (2015). *Transforming our world: The 2030 Agenda for Sustainable Development (A/RES/70/1)*. United Nations. Retrieved from https://sdgs.un.org/2030agenda

Van Zanten, J. A., & van Tulder, R. (2021). Improving companies' impacts on sustainable development: A nexus approach to the SDGs. *Business Strategy and the Environment*, 30(8), 3703-3720. https://doi.org/10.1002/bse.2835

Van Zanten, J. A., & van Tulder, R. (2021). Analyzing companies' interactions with the Sustainable Development Goals through network analysis: Four corporate sustainability imperatives. *Business Strategy and the Environment,* 30(5), 2396-2420. https://doi.org/10.1002/bse.2753

Vega-Pascual, M., López-García, A., & Jiménez-Crespo, R. (2025). Linking financial ecosystem and the growth of young SMEs: Evidence from Spanish regions. *Small Business Economics, 64*(1), 77 98.

WIPO (World Intellectual Property Organization). (2024). *Global Innovation Index 2024: Albania profile*. WIPO. Retrieved from https://www.wipo.int/edocs/gii-ranking/2024/al.pdf

World Bank. (2019). *Enterprise surveys: Albania 2019 Country profile*. World Bank. Retrieved from https://www.enterprisesurveys.org

World Bank. (2021). *Albania country economic memorandum: Strengthening the sustainability of Albania's growth model*. World Bank. https://www.worldbank.org

World Bank. (2021). *Green, resilient, and inclusive development: World Bank Group climate change action plan 2021- 2025*. World Bank. Retrieved from https://www.worldbank.org

World Bank. (2022a). *The Global Findex Database 2021: Financial inclusion, digital payments, and resilience in the age of COVID-19*. World Bank. Retrieved from https://www.worldbank.org

World Bank. (2023). *Albania Country Partnership Framework for the period FY23 FY27*. World Bank. Retrieved from https://www.worldbank.org

World Bank. (2024). *Business Ready 2024: Albania*. World Bank. Retrieved from https://www.worldbank.org

World Bank. (2024). *Western Balkans regular economic report (RER), 2024 editions*. World Bank. Retrieved from https://www.worldbank.org

Yin, R. K. (2018). *Case study research and applications: Design and methods (6th ed.). SAGE Publications.*

Small and Medium Enterprises in the Western Balkans: Development, Challenges, and Prospects

Dr. Agim NDREGJONI
agim.ndregjoni@umb.edu.al
Department of Statistics and Applied Informatics,
Aleksandër Moisiu University, Durrës, Albania

Abstract

This study examines the development of small and medium enterprises (SMEs) in the Western Balkans, the challenges they encounter, and their prospects amid regional economic transformation. Using a systematic literature review of research published between 2018 and 2025, we focus on six countries: Albania, Bosnia and Herzegovina, Kosovo, Montenegro, North Macedonia, and Serbia. Key findings indicate that SMEs form the economic backbone of the region, yet face persistent barriers including limited access to finance, complex taxation, institutional inefficiencies, and skills shortages. Recent insights suggest that streamlined tax systems and increased institutional trust positively influence SME growth. The paper concludes that policy reforms, particularly in regulatory simplification, financial access, digitalization, and governance, are essential to enhance the resilience and competitiveness of SMEs. These measures are critical not only for inclusive development but also for preparing the SME sector for integration into the European Union.

***Keywords**: SMEs, Western Balkans, entrepreneurship, taxation, institutional trust, economic development*

Introduction

Background and Context

Small and medium enterprises (SMEs) play a crucial role in the economies of the Western Balkans, which include Albania, Bosnia and Herzegovina, Kosovo, Montenegro, North Macedonia, and Serbia. Since transitioning from socialism in the '90s, these countries have experienced strong SME-led private sector growth (Alite et al., 2024). SMEs currently account for 99% of all firms in the region, contributing 60–65% of value added and about 75% of private employment (Batrancea et al., 2024). This mirrors or exceeds EU averages. However, the region still lags behind the EU in GDP per capita and productivity, making SME development essential for socio-economic convergence (European Commission, 2024). Beyond their role as drivers of employment and innovation, SMEs in the Western Balkans are closely connected to broader debates on global inequality and the inclusive economy (Bykovskaya et al.,2025). Given the region's persistent development gap with the European Union, strengthening SMEs can act as a mechanism to narrow disparities and promote convergence. In this sense, the growth and resilience of SMEs are not only a matter of regional development but also part of the global agenda for reducing inequality and building more inclusive economic systems.

Relevance of the Topic

The performance of SMEs in the Western Balkans is highly relevant for both research and policy. These firms are vital for employment, innovation, and social cohesion, accounting for over two-thirds of private sector jobs and a substantial share of the region's value added. Yet, the business climate remains challenging, marked by complex regulations, weak rule of law, and underdeveloped infrastructure (OECD, 2022). Inherited structural issues, such as high unemployment and brain drain, further exacerbate constraints on SME development (OECD, 2024). Understanding SME dynamics is essential because these firms are not only adaptive and innovative but also vulnerable to institutional weaknesses and external shocks.

Purpose and Objectives

This study aims to (1) review SME development in the Western Balkans, (2) identify the main challenges faced by SMEs, and (3) evaluate future opportunities and the role of policy interventions to support the sector. The goal is to inform evidence-based strategies for sustainable SME growth.

Scientific Contribution

The paper synthesizes diverse academic and policy sources to provide an integrated view of SME development in the Western Balkans. While past research often focused on isolated factors like finance or taxation, this study links firm-level constraints with broader institutional dynamics. Particular attention is given to emerging themes such as institutional trust and digitalization.Accordingly, the research is guided by the following questions:

Research Questions

RQ1: What has been the trajectory and contribution of SMEs in the region?
RQ2: What are the main challenges to their growth and competitiveness?
RQ3: What opportunities and policy strategies can enhance SME performance?

Literature review

A growing body of literature has examined various aspects of SME development in the Western Balkans. Collectively, these studies highlight the critical economic role of SMEs as well as the multifaceted challenges they face in the region's transitional context (Bartlett & Prica, 2017). According to data reported by the OECD (2022), SMEs in the Western Balkans and Turkey account for 99% of all firms, generate around 60–65% of value added, and about 75% of total employment. This confirms that SMEs are not only numerically dominant but also essential to economic output and job creation.

In the context of post-transition economies, SMEs act as key drivers of structural transformation and private-sector dynamism. They are essential not only for absorbing labor displaced from state-owned enterprises but also for fostering entrepreneurship and regional competitiveness (World Bank, 2023). However, compared to EU member states, SME productivity in the Western Balkans remains significantly lower—partly due to limited access to finance, weak integration into global value chains, and underdeveloped innovation ecosystems (EBRD, 2022).

Financial constraints remain one of the most frequently cited barriers. Bank lending to SMEs is limited, collateral requirements are high, and alternative financing instruments—such as venture capital, leasing, and crowdfunding—are underdeveloped (Rehman et al., 2019; OECD, 2022). The persistence of high interest rates and informality further exacerbates these constraints, resulting in

the underutilization of entrepreneurial potential. Moreover, the regulatory and administrative environment remains burdensome. Complex business registration procedures, frequent tax changes, and inconsistent enforcement of regulations discourage firm formalization and growth (European Commission, 2023). The informal sector continues to account for a substantial share of economic activity, distorting competition and eroding the tax base (Rehman et al., 2019).

Labor market inefficiencies also constrain SME productivity. The productivity and long-term growth potential of small and medium-sized businesses (SMEs) in the Western Balkans are consistently hampered by labor market inefficiencies. The mismatch between the skills that businesses require, particularly in technical and digital industries, and the abilities that the labor force provides is one of the most important problems. The ability of SMEs to compete in increasingly digitalized marketplaces, enhance operational efficiency, and adopt new technology is severely hampered by this mismatch. Evidence suggests that the region suffers from systemic challenges in skills development. According to the European Training Foundation (2023), only 41% of employees in the Western Balkans receive job-related training, compared to 62% in the EU-27. This indicates a substantial gap in continuous professional development, particularly in the area of digital skills (ETF, 2023). Furthermore, research by Bartlett and Uvalić (2022) emphasizes that many university graduates in the region—particularly in ICT—lack the practical and advanced digital competencies required by SMEs, resulting in underemployment and qualification mismatches. The emigration of skilled labor ("brain drain") has further reduced human capital availability, especially among younger cohorts (ILO, 2021). Additionally, SMEs tend to invest less in employee training and technological upgrading, perpetuating a low-innovation equilibrium (Bartlett & Prica, 2017).

The COVID-19 pandemic further exposed these vulnerabilities, though SMEs demonstrated resilience in bouncing back post-crisis. Studies conducted in particular countries provide these conclusions in more detail. Rehman et al. (2019) identify labor productivity barriers, including finance gaps, high tax burdens, corruption, informal competition, and skill mismatches. These findings are echoed in other surveys and show the systemic nature of constraints SMEs face. Moreover, informality and emigration of skilled labor intensify these challenges. Moreover, informality is still a pervasive issue. The "Hidden Employment Index" in the six Western Balkan countries varies from 36% to 76%, depending on the nation, according to a policy brief titled "The Hidden Economy in the Western Balkans in a Time of Crisis" (Institut Alternativa, 2022). This indicates that hidden employment is still substantial. The competitive climate for formal SMEs was undermined during the epidemic by the rise in informal practices brought on by lax regulation and emergency support measures.

The institutional environment also plays a pivotal role. While first-generation reforms (e.g., liberalization) progressed, second-generation reforms (e.g., capital market development, institutional quality) lag. Vučković et al. (2023) demonstrate that institutional and interpersonal trust improve SME outcomes by reducing uncertainty and costs, suggesting social capital's impact on entrepreneurship. Similarly, the EBRD Transition Report (2022) notes that countries with higher levels of institutional trust and legal predictability tend to exhibit stronger SME investment activity.

Taxation is another recurring theme. Batrancea et al. (2024) show that smart tax policies—not just low taxes—can foster entrepreneurship. High startup costs deter firm creation, but this can be offset by effective tax relief. Their findings underline the need for targeted fiscal strategies to stimulate SME growth in transitional contexts like the Western Balkans. Moreover, fiscal policies that reward innovation, green investment, and employment creation can enhance long-term SME resilience. For example, the EU's Small Business Act and the Green Agenda for the Western Balkans provide frameworks for aligning regional policies with EU best practices (European Commission, 2023). Yet, the uneven implementation of these initiatives across countries reflects varying institutional capacities and political commitment.

As the Western Balkans advance toward EU integration, SMEs face both opportunities and pressures. On one hand, the accession process stimulates regulatory convergence, investment in infrastructure, and access to EU funds for innovation and competitiveness (Bartlett, 2020). On the other hand, increased competition from EU firms may challenge domestic SMEs with limited technological capacity or managerial expertise.

Overall, the literature suggests that the region's long-term prospects depend on deepening reforms in three key areas: (1) strengthening financial intermediation and access to alternative finance; (2) enhancing institutional quality and rule of law; and (3) accelerating digital and green transitions (OECD, 2022; World Bank, 2023). Coordinated regional cooperation—through initiatives such as the Common Regional Market—could further promote trade integration and innovation spillovers (RCC, 2023).

Identification of Knowledge Gaps

Existing research is often fragmented, either country-focused or lacking a dynamic, time-sensitive perspective. Few studies compare Western Balkan countries to extract best practices. Additionally, research on digital transformation and trust is still emerging. Further investigation is needed to explore how institutional quality and policy design interact with entrepreneurial outcomes in the region.

Based on the literature, we propose the following hypotheses:

H1: Lower startup and tax burdens correlate with higher SME growth.
H2: Institutional improvements and trust enhance SME performance.
H3: Innovation and digitalization capacity are increasingly critical for SME competitiveness.

These hypotheses guide the analysis in the following sections.

Research methodology

This study is a systematic literature review aimed at synthesizing existing knowledge on SMEs in the Western Balkans. Rather than collecting primary data, we analyze findings from academic research and institutional reports to understand key trends, challenges, and policy impacts.

Data Sources and Search Strategy

We consulted major databases, including Scopus, Web of Science, and Google Scholar, along with reports from institutions such as the OECD, World Bank, and European Commission. These sources offer both peer-reviewed insights and practical policy evaluations relevant to SMEs in the region.

Keywords Used

Search terms included: SMEs, Western Balkans, entrepreneurship, taxation, institutional trust, corruption, finance, innovation, and digitalization. Searches were limited to English-language publications from 2013 to 2025, with a focus on recent developments post-2018.

Inclusion Criteria

Focus on SMEs in at least one Western Balkan country, were published in peer-reviewed journals or as official institutional reports, used clear methodologies (e.g., econometrics, case studies), and contributed insights relevant to our research questions.

Exclusion Criteria

Studies unrelated to the region, overly technical in narrow sectors, or opinion pieces without empirical evidence were excluded. We prioritized final published versions over working papers.

Data Extraction and Synthesis

We extracted data on SME performance, challenges, and policy effects. Findings were grouped under themes like finance, regulation, taxation, and institutional trust. A narrative synthesis compared results across studies, highlighting both consensus and contradictions.

Limitations

This review depends on the quality and coverage of existing literature. Country-level imbalance, outdated data, and qualitative rather than meta-analytic methods are limitations. However, we minimized bias by cross-referencing data from recent and diverse sources.

Analysis and Findings

SME Development and Economic Role: SMEs represent approximately 99% of all businesses in the Western Balkans and account for around 60% of gross value added and 75% of private-sector employment. In Albania, for example, SMEs generate over 76% of value added and employ over 80% of the workforce. Despite disruptions such as the COVID-19 pandemic, the sector demonstrated resilience, with SME density per capita increasing in the following years.

Key Challenges Identified

(1) Access to Finance: SMEs face difficulties obtaining affordable credit due to high collateral requirements and underdeveloped financial instruments. Alternative financing (e.g., venture capital, fintech) remains limited. The banking sector continues to dominate SME financing, while alternative sources—such as venture capital, angel investors, fintech lending, and crowdfunding, are still at an early stage of development (World Bank, 2024). According to recent OECD data, more than 60% of SMEs in the Western Balkans report finance as a major obstacle to business expansion. The problem is particularly severe for startups, innovative firms, and women-owned enterprises, which face additional barriers related to risk perception and limited collateral. Tmava et al. (2009) demonstrates that there is a substantial association between firm age, business strategies, and availability to bank loans in Kosovo, while Gashi Ahmeti & Fetai (2021) demonstrates that small and young enterprises face more financial challenges than larger and more consolidated firms.

(2) Taxation and Regulatory Burden: Complex tax administration and burdensome procedures hinder SME growth. Studies show that simplified tax systems and business-friendly reforms can stimulate entrepreneurship. The tax and regulatory framework in most Western Balkan countries is characterized by complexity, unpredictability, and administrative inefficiencies. SMEs report that frequent changes in tax legislation and high compliance costs increase uncertainty and discourage formalization (European Commission, 2023). In some economies, firms spend over 200 hours annually on tax-related procedures, double the EU average (World Bank Doing Business, 2020). Batrancea et al., 2024 suggest that simplified tax regimes, one-stop-shop services, and digital filing systems can significantly improve compliance and encourage entrepreneurship. However, implementation remains uneven across the region. For instance, North Macedonia and Serbia have made progress through e-tax platforms and reduced start-up fees, while Albania and Bosnia and Herzegovina continue to struggle with administrative fragmentation and overlapping jurisdictions.

(3) Corruption and Weak Institutions: Corruption and low institutional trust discourage business expansion and formalization. Trust in courts, however, is associated with better firm performance and reduced costs. Transparency International's (2023) Corruption Perceptions Index places most Western Balkan countries below the EU average, reflecting persistent governance challenges.

(4) Skills Shortage and Labor Market Mismatches: SMEs struggle to recruit skilled workers despite high unemployment. Brain drain exacerbates skill shortages, while education systems often fail to meet market needs. The mismatch between education outcomes and labor market needs is a persistent challenge (ILO, 2021). Many graduates lack practical skills, while vocational and technical education remains underdeveloped

(5) Competition from the Informal Sector: According to estimations, between 25 and 35 percent of all economic activity takes place outside of the formal sector, demonstrating the pervasiveness of informality (OECD, 2022). By avoiding taxes, labor laws, and environmental regulations, informal businesses unfairly compete with legitimate SMEs and weaken the foundation of the economy. Both opportunity and need considerations contribute to the survival of informality: small business owners are driven into it by complicated legislation, lax enforcement, and a lack of trust in established institutions. When implemented methodically, formalization tactics—like lowering registration fees, providing short-term tax breaks, and enhancing inspection transparency—have demonstrated benefits (OECD, 2024).

(6) Digitalization Gap: For SMEs in the Western Balkans, digital transformation poses both a difficulty and an opportunity. Digital tool usage was sped up by the pandemic, but development is still unequal. Less than 10% of SMEs in the area use cutting-edge technology like cloud computing or data analytics, and less than 20% of them participate in e-commerce (European Commission, 2023; OECD, 2024). Low digital literacy, a lack of internet penetration, particularly in rural regions, and restricted access to financing for technological investments are some of the obstacles. According to the Competitiveness Outlook 2024, Albania, Kosovo, and Bosnia and Herzegovina fall short of EU averages in terms of digital maturity, while only Serbia and Montenegro have made moderate progress.

Tax Policy and Institutional Measures

Evidence suggests that well-designed tax incentives (e.g., reduced startup costs, simplified tax regimes) contribute to increased SME formation. Conversely, tax hikes without compensatory measures discourage formal entrepreneurship. Internationally supported programs (e.g., credit guarantee schemes) have shown promise in easing financing constraints. Institutional Trust and Firm Outcomes: Higher trust in judicial institutions correlates with lower transaction costs and greater investment willingness. Strengthening the rule of law and ensuring fair enforcement are crucial to enabling SME growth.

Positive Developments and Prospects

Despite persistent constraints, some countries (e.g., Serbia, Bosnia and Herzegovina) have seen strong performance in the IT and startup sectors. Post-pandemic recovery was supported by public measures. Moreover, EU accession processes have spurred reforms aligned with the Small Business Act, with new EU-backed initiatives targeting digitalization and competitiveness. SME development is anticipated to be further supported in the future by more integration with EU standards and access to regional markets, especially if these developments are coupled with ongoing investments in institutional capacity, infrastructure, and skill development. This course presents encouraging opportunities for the Western Balkans to become more resilient and economically diversified.

Interpreting the Findings

Our review confirms that SMEs are vital for the Western Balkan economies but operate in a challenging environment marked by institutional weaknesses and transitional market inefficiencies. While SMEs are commonly acknowledged as

engines of growth, in this region, their potential is often constrained by structural barriers—such as limited access to finance, regulatory burdens, and skill mismatches—consistent with the "transitional convergence" problem (OECD, 2022).

Comparative Literature Insights

Our findings reinforce prior research, such as Rehman et al. (2019), who identified finance, corruption, and skills as persistent challenges. We add recent dimensions, such as the growing digital gap and the role of institutional trust (Vuĉković et al., 2023; Batrancea et al., 2024) support our conclusion that a supportive tax environment—e.g., simplified procedures and fiscal incentives—stimulates entrepreneurship. Bartlett et al. (2016) and Alite et al. (2024) likewise emphasize skill mismatches and emigration, which remain unresolved.

Post-COVID Dynamics: The resilience of SMEs during the pandemic was notable. Government interventions (e.g., tax deferrals, loan moratoria) helped firms recover, as noted in OECD (2022). These experiences suggest that targeted support, when timely and well-designed, can have a lasting impact on SME survival and growth.

Policy Implications

(1) Holistic Reform: Governments must coordinate improvements across taxation, finance, regulation, and education.
(2) Finance Access: Expanding credit guarantee schemes (e.g., Western Balkans Guarantee Facility) has proven effective in unlocking SME lending.
(3) Governance: Judicial reform and anti-corruption efforts build trust, which improves firm performance (Vuĉković et al., 2023).
(4) Skills Development: Align vocational education with labor market needs and engage the diaspora in knowledge transfer (Bartlett et al., 2016; Alite et al., 2024).
(5) Digitalization: Expand programs like "Go Digital in the Western Balkans," improve broadband access, and support tech upgrades.

Entrepreneurial Implications

SME owners should leverage available support schemes, engage in training, and form networks to increase resilience and competitiveness. Regional cooperation (e.g., via the Common Regional Market) also offers new market opportunities.

Regional Comparison and Prospects

Compared to Central and Eastern European countries (e.g., Poland), the Western Balkans lag behind due to a slower post-conflict reform process. However, accelerated EU integration and donor support provide a path forward. Initiatives such as the EU guarantee fund (€60 million) and the EBRD-EU digitalization program are already showing results.

The analysis also reveals that SMEs in the Western Balkans are positioned at the intersection of regional development challenges and global inequality. Limited access to finance, weak institutions, and the digital gap reinforce structural disadvantages that mirror global asymmetries between core and peripheral economies (Mahmood et al., 2024). Yet, if effectively supported, SMEs can function as engines of an inclusive economy by generating opportunities for youth, women, and marginalized groups, thereby reducing inequality both within and across countries.

Conclusions

Main Findings: SMEs are the backbone of Western Balkan economies, comprising the vast majority of firms and a large share of employment and output (Alite et al., 2024). Despite growth in number and resilience during the COVID-19 crisis (OECD, 2022), challenges persist—particularly limited access to finance (Rehman et al., 2019), burdensome taxation (Batrancea et al., 2024), weak institutions and low trust (Vučković et al., 2023), skills gaps (Bartlett et al., as cited in Alite et al., 2024), and digital under development (OECD, 2022). These challenges are interconnected and hinder SME competitiveness and formalization.

Policy Leverage Points: Policy reforms have had positive effects. Regulatory simplification, tax incentives, and digital support have contributed to new business formation (Batrancea et al., 2024). Improved institutional trust is associated with better SME performance (Vučković et al., 2023). EU-supported initiatives like guarantee funds and innovation grants are also bridging gaps in finance and technology (OECD, 2022).

Limitations: This review depends on available literature and may underrepresent success stories or smaller economies like Montenegro. Our scope is broad, and we have not conducted primary empirical testing.

Recommendations

(1) Finance Access: Expand credit guarantees and alternative funding (e.g., venture capital), leveraging EU and international institutions (Rehman et al., 2019; OECD, 2022).
(2) Regulation and Tax Simplification: Cut red tape, implement "one-stop shops," and maintain predictable tax regimes (Batrancea et al., 2024).
(3) Fight Corruption: Introduce ombudsman systems and digitalize procurement; establish commercial courts to improve trust and enforceability (Vučković et al., 2023).
(4) Skills Development and Retention: Align vocational training with SME needs; incentivize diaspora return; offer upskilling programs (Bartlett et al., as cited in Alite et al., 2024).
(5) Digitalization: Support SMEs with grants for technology, digital skills training, and broadband access (OECD, 2022).
(6) Regional and EU Integration: Use platforms like the Common Regional Market; prepare SMEs for EU programs such as Horizon Europe and Erasmus for Entrepreneurs (OECD, 2022).

Future Research

Future studies should explore SME performance at the sectoral level (e.g., agribusiness in Albania), assess long-term impacts of donor interventions, and analyze entrepreneurship culture among youth. Research on green transformation readiness is also recommended to align with the EU Green Deal.

In conclusion, we emphasize:The SME sector in the Western Balkans holds both significant challenges and vast potential. Addressing the critical constraints—finance, governance, skills, and innovation—requires coordinated reforms and sustained support. If current momentum and EU integration paths are effectively utilized, SMEs could become powerful drivers of inclusive and sustainable development in the region (Alite et al., 2024; Batrancea et al., 2024; Vučković et al., 2023). From a policy perspective, supporting SMEs in the Western Balkans extends beyond growth-oriented reforms; it represents a strategy for fostering an inclusive economy that mitigates inequality. Measures that enhance access to finance, digitalization, and institutional trust not only strengthen competitiveness but also contribute to bridging socio-economic divides. Aligning SME policies with the broader framework of inclusive and sustainable development can thus situate the Western Balkans more firmly within the global movement toward reducing inequality

References

Alite, R., Milo, L., & Ceka, G. (2024). The role of SMEs in the economies of the Western Balkans: The case of Albania. Interdisciplinary Journal of Research and Development, 11(1S), 260–268. https://doi.org/10.56345/ijrdv11n1s139

Bartlett, W., & Prica, I. (2017). Interdependence between core and periphery in the European economy: Secular stagnation and growth in the Western Balkans. European Journal of Comparative Economics, 14(1), 123-139, https://ideas.repec.org/a/liu/liucej/v14y2017i1p123-139.html

Bartlett, W., & Uvalić, M. (2022). Higher Education and the Labour Market in the Western Balkans: Can Universities Deliver Skills for the Digital Economy? LSE Research Online. https://eprints.lse.ac.uk/117489

Bartlett, W. (2020). Small and medium enterprises and economic development in the Western Balkans. London School of Economics, LSEE Papers.

Batrancea, L. M., Murrja, A., Masca, E. S., Ndreca, P., Tulai, H., & Poleshi, B. (2024). Does taxation foster entrepreneurship across Western Balkans countries? Empirical evidence across 30 years. Journal of Business-to-Business Marketing, 31(2), 225–241. https://doi.org/10.1080/1051712X.2024.2349094

Bykovskaya, N. E., Asmyatullin, R. R., & Salakhov, R. Sh. (2025). The Role of Small and Medium Enterprises (SMEs) in the Fight Against Economic Inequality. Ekonomika i Upravlenie Problemy Resheniya, 2/8(155), 46-52 DOI: 10.36871/ek.up.p.r.2025.02.08.006

European Commission. (2024, June 24). EU guarantees to enable €60 million in loans for sustainable growth in small businesses in North Macedonia, Bosnia and Herzegovina and Montenegro. https://enlargement.ec.europa.eu/news/eu-guarantees-enable-eu60-million-loans-sustainable-growth-small-businesses-north-macedonia-bosnia-2025-06-24_en

European Training Foundation. (2023). *ETF Survey on Jobs and Skills in the Western Balkans: Highlights from the Digital Training Gap*. Retrieved from https://www.etf.europa.eu

European Bank for Reconstruction and Development (EBRD). (2022). *Transition Report 2022–23: Business Unusual*. London: EBRD.

International Labour Organization (ILO). (2021). Skills mismatches and labour market challenges in the Western Balkans. Geneva: ILO.

Institut Alternativa. (2022). *The hidden economy in the Western Balkans in a time of crisis: Friend or foe?* https://institut-alternativa.org/en/the-hidden-economy-in-the-western-balkans-in-a-time-of-crisis-friend-or-foe/

Gashi Ahmeti, H. & Feta, B. (2021). Determinants of Financing Obstacles of SMEs in WesternBalkans. Management Dynamics in the Knowledge Economy. 9(3), 331-344. DOI 10.2478/mdke-2021-0022

Mahmood, T. H., Yoruk, E. D., & Gilman, M. (2024) Impact of Financial Inclusion on SME Growth: A Bibliometric Analysis of OIC and Non-OIC Countries. DOI: 10.4018/979-8-3693-1475-3.ch009

OECD. (2022). SME policy index: Western Balkans and Turkey 2022 – Assessing the implementation of the Small Business Act for Europe. OECD Publishing. https://doi.org/10.1787/b47d15f0-en

OECD. (2024). Western Balkans competitiveness outlook 2024: Regional profile. https://www.oecd.org/en/publications/western-balkans-competitiveness-outlook-2024-regional-profile_170b0e53-en.html

Rehman, N. U., Çela, A., Morina, F., & Sulçaj Gura, K. (2019). Barriers to growth of SMEs in Western Balkan countries. Journal of Management Development, 38(1), 2–24. https://doi.org/10.1108/JMD-09-2018-0273

Rehman, N., Della Rocca, G., & Nikoloski, Z. (2019). *Barriers to SME productivity in the Western Balkans*. *World Bank Policy Research Working Paper*, No. 8975. Washington, DC: World Bank.

Tmava, Q., Berisha, & F., Mehmeti, M. (2019). Comparative Analysis of Banking System Profitability in Western Balkan Countries. Journal of Economics and Management Sciences , 2(2), 33-44. DOI: 10.30560/jems.v2n2p33

Vučković, V., Škuflić, L., & Mangafić, J. (2023). Trust and firms' performance in Western Balkan countries. Economic Research-Ekonomska Istraživanja, 36(2), 2142255. https://doi.org/10.1080/1331677X.2022.2142255

WBIF – Western Balkans Investment Framework. (n.d.). Building the future of SMEs in the Western Balkans. https://www.wbif.eu/10-years-success-stories/success-stories/building-future-smes-western-balkans

WeBalkans & EBRD. (2024, March 15). €377 million SME digitalisation programme launched in Western Balkans. https://webalkans.eu/en/news/new-sme-financing-programme-for-the-western-balkans/

Conventional and Sharia Compliant Index in United Kingdom. Similarities and Differences

Phd. Cand. Zyber NESIMI
European University of Tirana, Tirana, Albania.

Prof. As. Mateo SPAHO
(https://orcid.org/0009-0008-4750-2194)
Dean, Faculty of Economics, Business and Development,
European University of Tirana, Tirana, Albania.
mateo.spaho@uet.edu.al

Abstract

Global economic crises have revealed the structural weaknesses of the conventional financial system, prompting growing interest in more sustainable alternatives. Islamic finance has emerged as a credible and reliable financial framework. Grounded in the principles of Sharia law, it prohibits interest (riba) and promotes risk-sharing among parties, making it a distinctive model in mitigating the effects of economic crises. Islamic indices are not merely financial indicators; they also embody ethical and religious values, encompassing only those companies that comply with Sharia principles. The primary objective of an Islamic index is to achieve lawful (halal) profit while managing risk through ethical means. Islamic indices tend to exhibit greater stability and lower volatility, responding differently to financial shocks compared to conventional indices. This abstract aims to analyze the contribution of Sharia-compliant economic activities to the financial stability of the United Kingdom and to assess the key differences between Islamic and conventional finance, highlighting the potential for a more resilient and sustainable financial system. The study adopts a

comparative and analytical approach, employing both qualitative and quantitative methods to examine the role of Islamic finance during periods of economic crisis and to compare its performance with that of conventional finance. Initially, a literature review is conducted, analyzing scholarly studies on both Islamic and conventional financial systems. Moreover, the relationship between the UK stock market index (FTSE) and GDP (2007–2024) is examined to determine whether economic growth exerts a positive influence on the performance of the British financial market. Particular attention is also devoted to assessing the impact of the UK's GDP on the performance of the FTSE Shariah Index, which represents British enterprises operating in accordance with Islamic financial principles.

***Keywords**: Islamic Index, Volatility, Risk Management , Halal , Current GDP.*

Introduction

In recent decades, financial globalization and the development of international capital markets have created a broad landscape for diversification, innovation, and the integration of different financing models. Among the concepts that have gained particular attention in this context is Islamic finance, a system that intertwines religious principles with modern market mechanisms, offering an alternative approach to conventional finance. Within this framework, Shariah-compliant indices have emerged as important instruments for measuring the performance of markets operating in accordance with Islamic law, positioning themselves as a key component of the global capital market structure. In parallel, conventional indices such as the FTSE 100, S&P 500, and MSCI World continue to represent the traditional standard of performance in Western capitalist markets.

This study aims to analyze the structural, conceptual, and performance-related similarities and differences between conventional stock indices and Shariah-compliant indices, focusing on how each model reflects the philosophy, institutional structure, and regulatory mechanisms of the financial system it represents. The introduction establishes the theoretical and historical foundations for understanding the evolution of these two financial systems, which, despite being based on different principles, have created important bridges of collaboration in modern global markets.

Conventional finance has its roots in the capitalist system, where the primary goal is profit maximization and efficient capital allocation through market mechanisms. This approach relies on interest as a fundamental instrument of lending and on risk distribution through derivatives, bonds, and speculative investments. In contrast, Islamic finance is based on moral and ethical principles prescribed by Shariah, which prohibits riba (interest), gharar (excessive uncertainty), and maysir

(speculation). Instead of interest, financial relationships are structured around profit-and-loss sharing, emphasizing cooperation, transparency, and fairness.

The development of Shariah-compliant indices began in the 1990s, driven by increasing demand for Shariah-compliant products in the Gulf countries, Southeast Asia, and North Africa. The creation of the Dow Jones Islamic Market Index (DJIM) in 1999, followed by the FTSE Shariah Index and MSCI Islamic Indexes in the United Kingdom, marked the beginning of the institutionalization of Islamic capital markets. These indices follow principles similar to those of conventional benchmarks but exclude companies engaged in Shariah-prohibited activities, such as alcohol production, gambling, interest-based banking, weapons, and pork-related products. They also impose limits on debt and interest levels in the balance sheets of included companies.

Comparing conventional and Shariah-compliant indices is highly relevant not only to understand differences in financial philosophy but also to analyze their relative performance and sensitivity to systemic risks. Empirical studies have shown that although Shariah-compliant indices face selection constraints, they often exhibit greater stability during financial crises, as their limited exposure to banking and speculative sectors reduces their vulnerability to sudden market fluctuations.

Conversely, conventional indices tend to be more elastic during periods of economic growth, as they include high-profit sectors such as finance, energy, and technology. Therefore, the comparison between the two models is not merely an analysis of gains and losses but also of stability, ethics, and macroeconomic impact. For researchers and policymakers, this comparison can help identify practices that promote sustainable development and responsible capital management.

Over the last decade, Islamic finance has become an integral component of the global financial system, managing over USD 3 trillion in Shariah-compliant assets (Islamic Financial Services Board, 2024). A significant part of this development is represented by Islamic investment funds and Shariah stock indices, which attract investors from diverse countries, including non-Muslims seeking ethical and sustainable investment opportunities.

At the same time, conventional markets have begun integrating concepts of ethical and responsible finance (ESG – Environmental, Social, Governance), which in many respects align with the principles of Islamic finance. This conceptual convergence underscores the fact that the divide between "conventional" and "Islamic" models is becoming less ideological and more functional, fostering new research on harmonizing financial market practices.

The objectives of this study are as follows:

1. To analyze the historical performance of selected conventional indices (e.g., FTSE 100) and Shariah-compliant indices (e.g., FTSE Shariah Index) over the period 2007–2024.

2. To identify correlations and structural deviations between the two indices during periods of economic crises and recoveries.
3. To assess whether Shariah-compliant indices provide higher stability during financial uncertainty and whether they can be considered an effective alternative to traditional investments.
4. To derive theoretical and practical implications for investors, financial institutions, and policymakers seeking to promote diversification and ethical investment practices.

This comparison will rely on quantitative analyses (percentage changes, volatility, average growth rates, and inter-market correlations) as well as a qualitative interpretation of the fundamental principles underlying each financial system. Based on these objectives, two hypotheses can be formulated:

H1: The FTSE Shariah Index exhibits a closer relationship with the United Kingdom's Gross Domestic Product (GDP) over the analyzed period (2007–2024).

H2: The FTSE Shariah Index demonstrates lower volatility compared to the conventional FTSE 100 index, reflecting reduced risk for investors.

This study aims to provide both an academic and practical contribution to the literature on the integration of Islamic and conventional financial markets. Theoretically, it emphasizes that, although Islamic finance is rooted in religious principles, it constitutes a rational and competitive economic model that seeks a balance between profit and social responsibility. Practically, the study will assist investors in understanding the structural and performance differences between the two models, offering a foundation for more diversified and sustainable investment strategies.

In a broader context, this analysis highlights the role of ethics and values within the global financial system. In the face of recurrent economic and financial crises, the search for more sustainable forms of capitalism has elevated alternative models, such as Islamic finance, to serious consideration in international policy discussions. In this sense, the comparison between conventional and Shariah-compliant indices is not merely an economic exercise but also a reflection on the moral and institutional evolution of global markets.

In summary, this study seeks to demonstrate how two different approaches to capital and risk—conventional and Islamic—can yield comparable results in terms of performance while differing in stability and ethical orientation. An empirical analysis of data from 2007–2024 allows for evidence-based comparison, contributing to an understanding of how financial systems can coexist and cooperate in an increasingly integrated global economy.

This study represents a significant step toward academic dialogue between conventional and Islamic finance, emphasizing that the diversity of economic models is not only a theoretical asset but also a practical opportunity for building a more equitable, ethical, and crisis-resilient financial system.

Literature Review

A dynamic and growing economy is considered healthy only when its rules, institutions, organizational operations, and the behavior of individuals and collectives are in compliance with Shariah (Iqbal & Mirakhor, 2011). The authors emphasize that a risk-sharing-based financial system is precisely what Shariah prescribes as an alternative to interest-based lending. Special attention is therefore given to ethical and institutional norms.

Risk-sharing is also regarded as a fundamental principle of the Islamic financial system. Unlike conventional finance, where interest-based lending transfers the majority of risk to the borrower, Islamic finance is designed to create mechanisms in which risk and reward are shared fairly. Such an approach enhances financial stability and resilience. Due to its focus on real economic activities, the risk associated with speculation and interest-based loans is generally lower in the Islamic system. Islamic finance is viewed as an integral part of the broader economic system and social relations. Some of its instruments include contracts linked to real projects, where profits and losses are equitably shared. Special attention is given not only to the profitability of Islamic financial institutions but also to their social impact.

Islamic indices are instruments that measure the performance of selected stocks in accordance with Islamic finance principles, excluding companies that are non-compliant with Shariah (Abbes, 2012). These indices are not merely financial indicators; they also reflect ethical and religious values, as they include only companies that comply with Shariah principles. The primary goal of an Islamic index is not to maximize profit, but to achieve lawful (halal) gains and manage risk ethically. Abbes also notes that these indices exhibit a more stable structure and respond differently to financial crises compared to conventional indices, emphasizing Shariah compliance, exclusion of prohibited activities, and a balance between risk, return, and ethics in investment.

Islamic indices are composed of equities and instruments selected according to Shariah principles, representing the performance of companies that operate ethically and in accordance with Islamic law. They exclude businesses involved in prohibited activities such as alcohol, gambling, interest (riba), and pork products. Company selection is carried out through Shariah screening, which evaluates financial structure and revenue sources to ensure compliance with Islamic

principles (Bhoyroo, 2019). These indices aim to create sustainable and Shariah-compliant investment opportunities, integrating financial markets with Islamic moral values.

Islamic indices employ a control process that excludes companies with high debt levels, prohibited activities, interest income, or significant use of conventional instruments, ensuring Shariah compliance (Ayedh & Iqmal Hisham, 2019). The authors stress that Shariah compliance requires a thorough analysis of financial structure, income sources, and capital management, rather than mere exclusion of specific companies. Some existing Shariah screening methods are not fully aligned with Shariah principles, necessitating more rigorous and standardized criteria.

Islamic indices are constructed by filtering conventional index data to include only companies that meet Shariah-compliant screening, thereby providing a targeted selection for Islamic investment (Kazan, 2016). Kazan emphasizes that Islamic indices are not merely replicas of conventional indices but are carefully curated through a Shariah-compliance process, highlighting the unique selection of companies that meet Islamic criteria rather than focusing solely on financial performance.

Islamic enterprises are business organizations operating according to Shariah principles, avoiding interest (riba) and prohibited (haram) activities, with a focus on justice and social responsibility (Chapra, 2000). Chapra underscores that ethical and social responsibility are central to the functioning of Islamic enterprises. These enterprises create economic value while respecting Islamic ethics and financial principles, including risk-sharing and profit from permissible activities (Iqbal & Mirakhor, 2007). Profits should arise only from Shariah-compliant sources and activities, balancing economic gain with adherence to Islamic principles.

Islamic enterprises avoid speculation, excessive debt, and investments in prohibited sectors to ensure fairness and ethical business conduct (Usmani, 2002). Usmani further notes that interest, gambling, and speculative transactions concentrate wealth in the hands of a few, creating monopolies or market distortions that impede natural market functioning. Excessive profit without real production, as in financial speculation or usury, leads to unequal distribution of economic power and undermines market competitiveness.

Professionals structuring Islamic financial products must balance product efficiency with Shariah compliance and credibility in Islamic financial markets (Al-Gamal, 2006). Al-Gamal argues that Shariah compliance should reflect core Islamic values—justice, risk-sharing, and prohibition of exploitation—rather than being limited to formal contractual manipulations. Modern Islamic finance often modifies conventional products to appear Shariah-compliant without altering their economic essence, which can compromise authenticity and investor trust. He advocates for a profound transformation toward ethics and practice fully aligned with Shariah principles.

A notable advantage of Islamic finance is its integration of the financial sector with the real economy. Conventional debt-driven systems often fail to achieve this connection. In Islamic finance, every financial asset corresponds to a real or potential asset, whereas conventional debt-based financial assets multiply independently of real assets, increasing susceptibility to speculation and instability (Siddiqi, 2006). Thus, Islamic finance offers a more sustainable alternative closely linked to the real economy, reducing systemic and speculative risks, and enhancing resilience to financial crises.

Furthermore, economic thought has long recognized the ethical dimensions of financial activity. Adam Smith, often considered the "father of modern capitalism," was in fact a professor of moral philosophy emphasizing the ethical foundations of economics (Subbarao, 2009). Economics, according to Smith, is inseparable from morality, serving the common good through justice, empathy, and integrity.

Finally, empirical studies highlight the positive role of Shariah supervisory boards while underscoring the need for effective regulatory and enforcement mechanisms (Mollah & Zaman, 2015). Independent, experienced, and committed Shariah boards enhance the performance of Islamic finance institutions, but their effectiveness depends on clear implementation frameworks and institutional oversight.

Methodology

This study includes a comparative analysis that relies on both quantitative methods (percentage changes, volatility, average growth rates, and inter-market correlations) and a qualitative interpretation of the fundamental principles underlying each financial system.

The table below presents the data on the conventional FTSE 100 index points, the year-over-year percentage changes, the FTSE Shariah-compliant index, and the Gross Domestic Product (GDP) of the United Kingdom with the corresponding changes. The analysis begins with annual data from 2007, which marks the first year of quotation for the FTSE Shariah-compliant index.

TABLE 1: FTSE 100, FTSE Sharia Index and Current GDP in USD

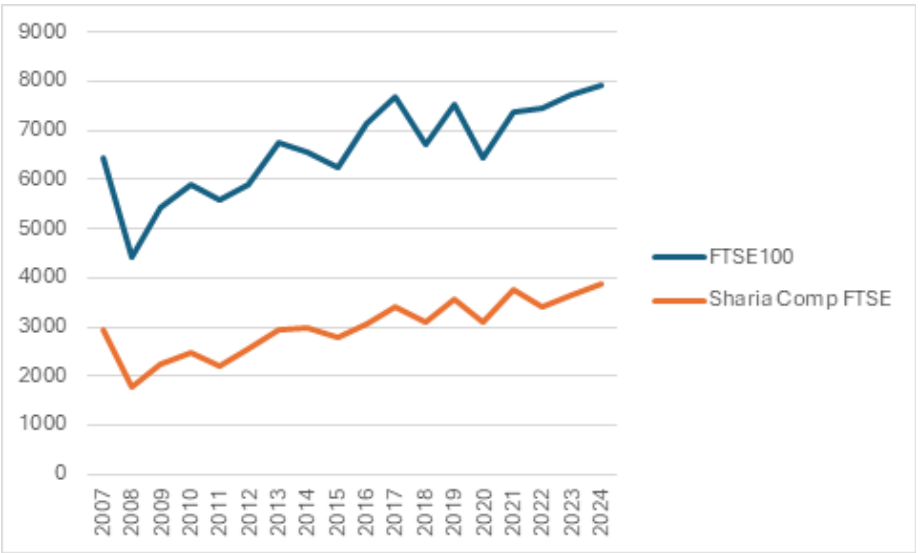
Year	FTSE100	Change%	Sharia Comp FTSE	Change%	Current GDP	Change%
2007	6456	—	2,950	—	3090510204082	—
2008	4434	-31.3	1,780	-39.70%	2929411764706	-5.21%
2009	5413	22.1	2,250	26.40%	2412840006232	-17.63%
2010	5899	9	2,490	10.70%	2485482596185	3.01%
2011	5572	-5.5	2,220	-10.80%	2663805834828	7.17%
2012	5898	5.9	2,560	15.30%	2707089726615	1.62%
2013	6749	14.4	2,940	14.80%	2784853502534	2.87%
2014	6566	-2.7	2,990	1.70%	3064708247921	10.05%
2015	6242	-4.9	2,770	-7.30%	2927911140917	-4.46%
2016	7143	14.4	3,040	9.70%	2689106566900	-8.16%
2017	7688	7.6	3,420	12.50%	2680148052335	-0.33%
2018	6728	-12.5	3,110	-9.10%	2871340347582	7.13%
2019	7542	12.1	3,580	15.10%	2851407164908	-0.69%
2020	6460	-14.3	3,100	-13.40%	2696778386608	-5.42%
2021	7385	14.3	3,760	21.30%	3143323050707	16.56%
2022	7452	0.9	3,390	-9.80%	3114042471144	-0.93%
2023	7733	3.8	3,640	7.40%	3369861888973	8.22%
2024	7920	2.4	3,870	6.30%	3643834188783	8.13%

Source: London Stock Exchange, World Bank Data 2025.

The data presented in the table for the period 2007–2024 provide a clear overview of economic and financial dynamics in the UK and international markets, reflecting the impact of economic cycles on capital markets and Gross Domestic Product (GDP). The FTSE 100 index, representing the largest companies listed on the London Stock Exchange, and the FTSE Shariah-compliant index, including firms adhering to Islamic finance principles, exhibit significant fluctuations throughout the analyzed period closely linked to macroeconomic developments.

In 2008, as a result of the global financial crisis, both indices experienced substantial declines: the FTSE 100 fell by 31.3%, while the Shariah-compliant FTSE dropped by 39.7%. This period also coincided with a significant contraction in GDP, which decreased by 5.21%, reflecting the slowdown in global economic activity. However, in the following year (2009), a partial market recovery was observed – the FTSE 100 rose by 22.1%, and the Shariah-compliant index increased by 26.4% – although GDP remained at low levels due to the delayed effects of the crisis on the real sector.

FIGURE 1: Comparison of the points of the two main indices



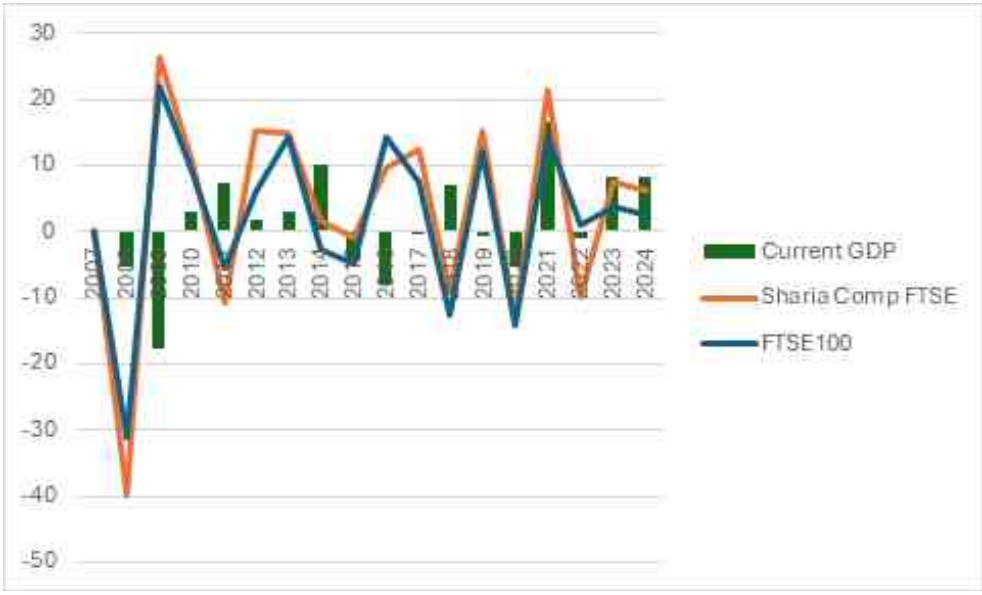
Source: London Stock Exchange

During the period 2010–2014, the data indicate a moderate stabilization of the markets, with varying growth rates. The FTSE Shariah Composite demonstrates higher growth rates compared to the FTSE 100, suggesting greater sensitivity to global growth and to non-financial sectors, which are more represented in this index. At the same time, GDP reflects a gradual recovery, with average positive growth rates around 3–4%, indicating increased consumption and investment following the crisis.

In 2020, the COVID-19 pandemic caused another significant shock to financial markets and the economy. The FTSE 100 declined by 14.3%, while the FTSE Shariah Composite fell by 13.4%, alongside a 5.42% decrease in GDP. This illustrates a moderate positive correlation between financial market movements and real economic performance, a phenomenon well-documented in economic literature linking financial and business cycles.

Following 2020, a strong recovery is observed. In 2021, the FTSE 100 rose by 14.3%, the FTSE Shariah Composite increased by 21.3%, and GDP recorded a 16.56% growth, reflecting the revival of aggregate demand and the impact of fiscal and monetary stimulus measures. During the 2022–2024 period, both markets and GDP maintained a positive trajectory, with more moderate growth, signaling the onset of an economic normalization phase after the pandemic crisis.

FIGURE 2: Index changes relative to current GDP growth



Source: London Stock Exchange, World Bank Data 2025

In conclusion, the data indicate that financial markets and the real economy have generally moved in the same direction, although with varying intensities. The FTSE Shariah Composite has demonstrated greater elasticity during recovery periods, while the FTSE 100 has exhibited higher stability during periods of uncertainty. Meanwhile, GDP has reflected the lagged effects of these developments, confirming the interrelationship between financial market performance and the economic cycle. This analysis supports the conclusion that financial stability is a fundamental prerequisite for long-term sustainable economic growth.

Analysis

The analysis examines the results of a linear regression between the FTSE index and current GDP. In this model, the relationship between the UK stock market index (FTSE, as the dependent variable) and the current Gross Domestic Product (CURRENTGDP, as the independent variable) is analyzed for the period 2007–2024. The method employed is Ordinary Least Squares (OLS), based on a total of 18 observations. The primary objective is to assess whether economic growth positively influences the performance of the UK financial market.

Dependent Variable: FTSE Method: Least Squares Date: 10/27/25 Time: 23:32 Sample: 2007 2024 Included observations: 18				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1841.642	1885.215	0.976887	0.3432
CURRENTGDP	1.65E-09	6.48E-10	2.551572	0.0213
R-squared	0.289221	Mean dependent var		6626.667
Adjusted R-squared	0.244798	S.D. dependent var		941.5610
S.E. of regression	818.2390	Akaike info criterion		16.35663
Sum squared resid	10712240	Schwarz criterion		16.45556
Log likelihood	-145.2096	Hannan-Quinn criter.		16.37027
F-statistic	6.510519	Durbin-Watson stat		1.226047
Prob(F-statistic)	0.021335			

This model examines the relationship between the UK stock market index (FTSE, as the dependent variable) and the current Gross Domestic Product (CURRENTGDP, as the independent variable) for the period 2007–2024. The Ordinary Least Squares (OLS) method was employed, based on a total of 18 observations. The primary objective is to assess whether economic growth positively influences the performance of the UK financial market.

The regression results indicate that the coefficient for CURRENTGDP is 1.65E-09, with a t-statistic of 2.55 and a p-value of 0.0213. Since this p-value is less than 0.05, the result is statistically significant at the 5% level, demonstrating a reliable relationship between GDP and the FTSE index. The positive coefficient suggests that GDP growth is associated with an increase in the FTSE index, in line with economic theory, which posits that economic expansion boosts investor confidence and increases stock market values.

On the other hand, the intercept (C = 1841.64) is not statistically significant (p = 0.34), indicating that the baseline FTSE level in the absence of GDP does not have practical economic interpretation. This is common in macroeconomic models, where such intercepts mainly serve to define the regression line rather than provide substantive explanation.

The R-squared value of 0.289 indicates that approximately 28.9% of the FTSE index variability is explained by fluctuations in GDP. Although this represents a moderate relationship, it remains meaningful for a model with a single independent variable. This suggests that other factors, such as inflation, interest rates, or market expectations, may also play an important role in determining FTSE movements.

The F-test results (F-statistic = 6.51; p = 0.0213) indicate that the model as a whole is statistically significant, confirming that GDP contributes substantially

to explaining FTSE performance. However, the Durbin–Watson statistic (1.22) suggests the potential presence of positive autocorrelation, which is typical in economic time series; therefore, additional testing (e.g., Breusch–Godfrey) is recommended to verify the model's stability.

In conclusion, the results demonstrate a positive and statistically significant relationship between economic growth and capital market performance in the United Kingdom. The model confirms theoretical expectations regarding the link between economic activity and financial markets, although the explanatory power is moderate. To improve the model, it is recommended to include additional variables such as inflation, interest rates, and unemployment, as well as to consider logarithmic transformations to analyze percentage-based relationships between macroeconomic indicators and the FTSE index.

Dependent Variable: SHARAIAFTSE Method: Least Squares Date: 10/27/25 Time: 23:34 Sample: 2007 2024 Included observations: 18				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-386.2251	1066.887	-0.362011	0.7221
CURRENTGDP	1.17E-09	3.66E-10	3.183341	0.0058
R-squared	0.387763	Mean dependent var		2992.222
Adjusted R-squared	0.349498	S.D. dependent var		574.1342
S.E. of regression	463.0605	Akaike info criterion		15.21803
Sum squared resid	3430800.	Schwarz criterion		15.31696
Log likelihood	-134.9623	Hannan-Quinn criter.		15.23167
F-statistic	10.13366	Durbin-Watson stat		1.115872
Prob(F-statistic)	0.005776			

This model aims to examine the impact of Gross Domestic Product (CURRENTGDP) on the performance of the Shariah-compliant FTSE index, which represents UK companies operating according to Islamic finance principles. The analysis was conducted using the Ordinary Least Squares (OLS) method for the period 2007–2024, with a total of 18 annual observations.

The regression results indicate a positive and statistically significant coefficient for CURRENTGDP, with a value of 1.17E-09, a t-statistic of 3.18, and a p-value of 0.0058. This demonstrates a strong and reliable relationship between economic growth and the performance of the Shariah FTSE index. In other words, GDP growth is associated with an increase in the Shariah FTSE index, reflecting that economic development also enhances investor confidence in markets that operate under Islamic finance principles.

Practically, given that GDP is measured in billions of pounds, an increase of £1 billion in GDP is associated with an approximate 1.17-point rise in the Shariah FTSE index. The intercept (C = -386.22) is not statistically significant (p = 0.72), indicating that a hypothetical zero GDP level does not yield meaningful economic interpretation. This is expected, as intercepts in macroeconomic models generally serve to determine the baseline of the regression line rather than provide substantive explanation. The R-squared value of 0.388 indicates that approximately 38.8% of the variability in the Shariah FTSE index is explained by changes in GDP. This represents a notable improvement compared to the conventional FTSE model (R^2 = 0.29), suggesting that the Shariah FTSE index is more sensitive to changes in economic activity. This may be due to its focus on financially stable and productive sectors, which benefit more directly from real economic growth.

Furthermore, the F-statistic of 10.13 (p = 0.0058) confirms that the model is statistically significant at the 1% level, validating that GDP has a substantial influence on the Shariah FTSE index. The Durbin–Watson statistic (1.12) indicates potential positive autocorrelation; therefore, it is recommended to check for time-dependent residuals using the Breusch–Godfrey test.

In conclusion, the results support the hypothesis that economic growth positively affects the development of capital markets based on Islamic finance principles. The model is significant both statistically and economically, demonstrating that the Shariah FTSE index consistently follows the growth trends of UK GDP. For a more comprehensive analysis, it is recommended to extend the model with additional macroeconomic variables such as inflation, interest rates, or foreign direct investment, and to use logarithmic transformations to assess relative elasticities between economic indicators and the index.

Dependent Variable: SHARAIAFTSE				
Method: Least Squares				
Date: 10/27/25 Time: 23:35				
Sample: 2007 2024				
Included observations: 18				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-926.8443	248.3572	-3.731900	0.0018
FTSE	0.591408	0.037126	15.92969	0.0000
R-squared	0.940687	Mean dependent var		2992.222
Adjusted R-squared	0.936980	S.D. dependent var		574.1342
S.E. of regression	144.1296	Akaike info criterion		12.88374
Sum squared resid	332373.4	Schwarz criterion		12.98267
Log likelihood	-113.9537	Hannan-Quinn criter.		12.89738
F-statistic	253.7549	Durbin-Watson stat		1.353186
Prob(F-statistic)	0.000000			

This model aims to examine the degree of dependence between the Shariah FTSE index (dependent variable) and the conventional FTSE index (independent variable) over the period 2007–2024, using a total of 18 annual observations. The objective is to assess whether movements in the general UK equity market are similarly reflected in capital markets operating according to Islamic finance principles.

The regression results indicate a very strong and statistically significant relationship between the two indices. The coefficient for the FTSE variable is 0.5914, with a t-statistic of 15.93 and a p-value of 0.0000, demonstrating significance at the 1% level. This implies that a 1-point increase in the conventional FTSE index is, on average, associated with a 0.59-point increase in the Shariah FTSE index. The relationship is positive, stable, and consistent with theoretical expectations, as Shariah-compliant indices operate within the same financial market and generally follow broader market trends.

The constant term (C = -926.84) is statistically significant (p = 0.0018), indicating that in the absence of movements in the conventional FTSE index, the Shariah FTSE index would be approximately 927 points lower. This reflects the narrower base of the Shariah FTSE, due to structural constraints of Islamic finance that exclude sectors such as interest-based banking, alcohol, and gambling.

The R-squared value of 0.9407 indicates that 94.1% of the variability in the Shariah FTSE index is explained by fluctuations in the conventional FTSE index, an exceptionally high result demonstrating a very strong correlation between the two markets. The Adjusted R-squared value of 0.937 further confirms the model's excellent explanatory power.

The F-test results (F-statistic = 253.75; Prob(F) = 0.0000) reinforce the overall significance of the model, highlighting the strong and consistent influence of the independent variable on the dependent variable. The Durbin–Watson statistic (1.35) is slightly below 2, suggesting a mild tendency toward positive autocorrelation, but not at levels that would raise major concerns.

In conclusion, the model shows that the Shariah FTSE index moves almost in parallel with the conventional FTSE index, reflecting that Islamic markets in the UK are closely integrated with the broader financial market. Despite structural limitations in the composition of the Shariah index, its performance is largely influenced by general economic factors and the investment climate. These findings underscore that Islamic finance is not isolated from conventional market dynamics, but follows broader trends with moderate sensitivity (elasticity of 0.59), indicating a stable yet conservative participation in overall capital market developments.

Summary of the Analysis

The aim of the empirical analysis is to examine the relationships between economic development and financial market performance, including both the general equity market (FTSE) and the Shariah-compliant capital market (Shariah FTSE). Three regression models were tested for the period 2007–2024, providing a clear overview of the linear relationships between the key variables.

The first model (FTSE ~ GDP) shows a positive and statistically significant relationship between economic growth and the FTSE index. The GDP coefficient is 1.65E-09 with a p-value of 0.0213, confirming that economic expansion positively influences stock market values. However, R-squared = 0.289 indicates that only about 29% of FTSE fluctuations are explained by GDP, suggesting that other factors such as interest rates, inflation, investor expectations, and international developments also affect the market. The relatively low Durbin–Watson statistic (1.22) signals potential positive autocorrelation, typical in time series data. Overall, the model confirms the existence of a positive but moderate link between economic activity and the UK stock market.

The second model (Shariah FTSE ~ GDP) demonstrates an even stronger relationship between GDP and the Islamic index. The GDP coefficient (1.17E-09) is positive and highly significant (p-value = 0.0058), while R-squared = 0.388, meaning that approximately 39% of the Shariah FTSE variability is explained by GDP. Compared to the first model, this indicates that the Shariah FTSE is more sensitive to economic developments, likely due to its structure being oriented toward productive and real sectors that benefit directly from GDP growth. The high F-statistic (10.13) and low probability (0.0058) confirm the overall significance of the model, suggesting that Islamic markets, though specialized, remain integrated with real economic trends.

The third model (Shariah FTSE ~ FTSE) provides the strongest and most robust results. The FTSE coefficient is 0.5914, with a t-statistic of 15.93 and p-value = 0.0000, demonstrating a very strong, positive, and statistically stable relationship between the two markets. R-squared = 0.941 indicates that over 94% of the Shariah FTSE variance is explained by changes in the conventional FTSE, showing an almost perfect correlation. This implies that the Shariah index closely follows general market movements, reflecting that, despite its ethical and religious foundations, it operates within the same dynamics as the conventional capital market. The negative intercept (-926.84) shows that, in the absence of FTSE movements, the Shariah index baseline would be lower, reflecting the sectoral limitations inherent to Islamic finance.

In conclusion, the comparison of the three models shows that:

- GDP positively influences both FTSE and Shariah FTSE, but more strongly the latter;
- Shariah FTSE is highly correlated with FTSE, sharing almost identical market trends.

These results indicate that markets operating under Islamic principles are not isolated but are integrated into the broader UK economy, reflecting overall economic development and investment climate. Empirical findings support the hypothesis that economic growth and financial market dynamics are key factors shaping the performance of Islamic markets, which, while maintaining their ethical characteristics, operate in harmony with conventional financial system trends.

Conclusions

This study examines the relationship between economic development and financial market performance in the United Kingdom for the period 2007–2024, comparing the conventional FTSE index with the Shariah-compliant FTSE index. Empirical results show a positive relationship between GDP and both indices, although the intensity of this link varies.

The first model demonstrates that GDP moderately affects the FTSE index ($R^2 = 0.289$), while the second model confirms a stronger relationship with the Shariah FTSE ($R^2 = 0.388$), due to its orientation toward real economic sectors. The third model reveals a very high correlation between FTSE and Shariah FTSE ($R^2 = 0.941$), indicating a deep integration between conventional and Islamic financial markets. These findings suggest that Islamic markets, while based on ethical principles, largely mirror the dynamics of traditional markets, becoming an integral part of the global financial system. The first hypothesis is confirmed: the Shariah FTSE index is more closely linked to the UK GDP over the analyzed period (2007–2024). The second hypothesis is rejected: the Shariah FTSE exhibits higher volatility than the conventional FTSE100, reacting more sensitively to economic changes. This higher level of instability reflects its narrower sectoral composition and orientation toward the real economy, which lacks the cushioning effect of conventional financial sectors.

In essence, a strong connection with the real economy does not necessarily imply lower risk. The Shariah FTSE's higher responsiveness to economic shifts highlights the trade-off between ethical alignment, exposure to real sectors, and market volatility.

References

Abbes, M. B. (2012), *Risk and Return of Islamic and Conventional Indices. International Journal of Euro-Mediterranean Studies,* 5, 1-23.

Ayedh, A., & Iqmal Hisham, M. (2019). *Shariah screening methodology: Does it "really" Shariah compliance? IQTISHADIA: Journal of Islamic Economics and Business*, 12(2), 144-172.

Bhoyroo, M. (2019). *Understanding Shariah Compliant Indexing*. London Stock Exchange Group (LSEG) Research.

Chapra, M. U. (2000). *The Future of Economics: An Islamic Perspective*. Leicester: The Islamic Foundation.

El - Gamal, M. A. (2006). Islamic finance: Law, economics, and practice. Cambridge University Press.

Iqbal, M. , & Mirakhor, A. (2011). An introduction to Islamic finance: Theory and practice (2nd ed.). Wiley Finance.

Iqbal. Z. , & Mirakhor, A. (2011). *An introduction to Islamic Finance: Theory and practice* (2nd ed.). Singapore: John Wiley & Sons.

Iqbal. Z. , & Mirakhor, A. (2007). *An introduction to Islamic Finance: Theory and Practice*. Singapore: John Wiley & Sons.

Kazan, F. (2016). Developing Shariah-Compiant Stock Index. Organizata e Bashkëpunimit Islam, Stock Exchanges Forum.

Siddiqi, M. N. (2006). Islamic banking and finance in theory and practice: A survey of state of the art. Islamic Ekonomic Studies.

Usmani, M.T. (2002). *An introduction to Islamic finance.* Karachi*:* Idaratul Ma arif.

Mollah, M. B. , & Zaman, M. (2015) . Shariah supervision, corporate governance and performance: Conventional vs. Islamic banks. *Journal of Banking & Finance, 58*, 418 - 435. https:// doi.org/10. 1016/ j. bankfin. 2015. 04. 030